

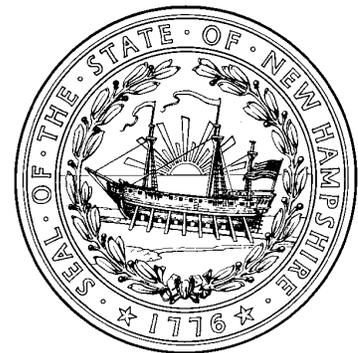
# CANCER INCIDENCE AND MORTALITY IN NEW HAMPSHIRE, 1998

Jeanne Shaheen, Governor

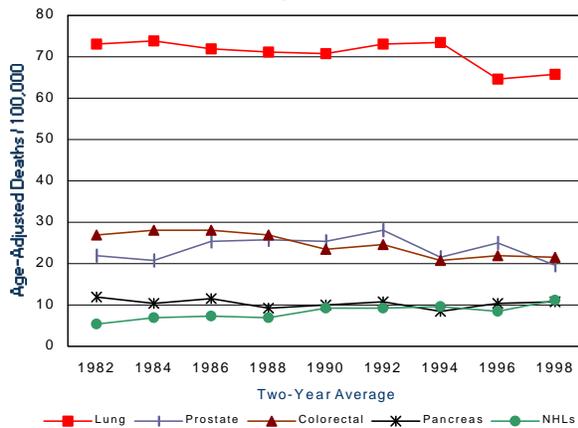
Donald L. Shumway, Commissioner  
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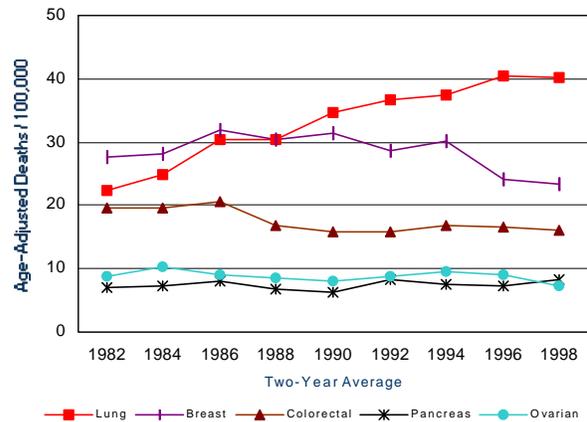
New Hampshire Department of Health and Human Services  
Office of Community and Public Health  
Bureau of Health Statistics and Data Management



**Five Leading Sites of Male Cancer  
Mortality, 1981 to 1998**



**Five Leading Sites of Female Cancer  
Mortality, 1981 to 1998**



# CANCER INCIDENCE AND MORTALITY IN NEW HAMPSHIRE, 1998

*Prepared by:*

New Hampshire Department of Health and Human Services  
Office of Community and Public Health  
Division of Epidemiology and Vital Statistics  
Bureau of Health Statistics and Data Management  
Donald L. Shumway, Commissioner  
August 2001

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An electronic version of the report is available on the  
Bureau of Health Statistics and Data Management website:  
[www.dhhs.state.nh.us/healthstats](http://www.dhhs.state.nh.us/healthstats)

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<b>Carrie Marshall</b>	<i>Weeks Memorial Hospital</i>
<b>Jennifer Bolduc, CTR</b>	<i>Wentworth Douglas Hospital</i>

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- Andrew Chalsma, BA, Senior Management Analyst, Bureau of Health Statistics and Data Management
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# INTRODUCTION

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This report includes New Hampshire cancer incidence and mortality data from 1998 and a summary of incidence rates for the state covering the five years from 1994 through 1998. Tables are presented for 23 primary cancer sites. For comparison purposes, national rates are presented from the National Cancer Institute's (NCI) Surveillance, Epidemiology, and End Results (SEER) Program Publication, *SEER Cancer Statistics Review, 1973-1998*. The SEER Program of the NCI collects and publishes cancer incidence and survival data from 11 population-based cancer registries and three supplemental registries covering approximately 14 percent of the U.S. population. This combination of state specific and comparative national information provides a basis for population-focused interventions designed to reduce mortality and morbidity from cancer in New Hampshire.

## What's New In This Report

New features being introduced with the release of the 1998 Cancer Report...

- ❖ User's Guide and Frequently Asked Questions (FAQ) sections. These additions are intended to assist readers in understanding uses and limitations of the data in the report.
- ❖ A section on race and ethnicity.
- ❖ Mortality data (this has not been present in annual reports since the 1987-1991 publication).
- ❖ Mortality trends for the most common cancers.
- ❖ Statistical testing has been conducted to highlight significant differences between NH cancer rates by gender, by NH counties, and in comparison with the nation.
- ❖ Liver has been added as a primary site group and colon and rectal cancer have been combined into the colorectal site group.
- ❖ Data from the 1998 Behavioral Risk Factor Surveillance system (BRFSS) is used. This combination of different data sources more fully describes the burden of cancer in New Hampshire. For a copy of the most recent BRFSS report, please visit the BHSDM's website at [www.dhhs.state.nh.us/healthstats](http://www.dhhs.state.nh.us/healthstats).
- ❖ In March of 2001, the Department of Health and Human Services released Healthy New Hampshire 2010 (HNH 2010), a document describing future benchmarks for improvements to health. The cancer report makes reference to these benchmarks where relevant. For more HNH 2010 information, please refer to the website at [www.healthynh2010.org](http://www.healthynh2010.org).
- ❖ Finally, this report includes an evaluation card. The Bureau of Health Statistics and Data Management (BHSDM) is committed to publishing useful reports that empower public health decision-making. Feedback from communities and public health professionals is sought and encouraged. To learn more about the BHSDM's mission and services, please visit the bureau's website at [www.dhhs.state.nh.us/healthstats](http://www.dhhs.state.nh.us/healthstats).

## WHAT IS CANCER?

Cancer is not a single disease, but is made up of over 100 various types. Cancer is characterized by the uncontrolled growth and spread of abnormal cells. It can start in one of many different organs or tissues in the body; this initial locus of the disease is defined as the primary site. If the disease cannot be controlled through therapeutic methods, it can spread (metastasize) to other organs throughout the body.

There is no single cause for cancer. It is thought that a combination of risk factors work together to initiate or promote the disease. Often, the cause of a case of cancer is unknown. Some cancers have more clearly associated risk factors than others and some risk factors are common among many types of cancer. Some factors generally accepted to increase the risk of one or more cancer types include: tobacco smoking, family history of cancer, gender, race, age, certain hormones in the body, viruses, exposure to radiation and some chemicals, diet, and excessive exposure to sunlight. Throughout this report, risk factors for individual cancer types are highlighted.

## THE BUREAU OF HEALTH STATISTICS AND DATA MANAGEMENT

The Bureau of Health Statistics and Data Management (BHSDM) analyzes records of newly diagnosed cases of cancer (incidence data) and Vital Records death files and distributes statistical information from these records to community organizations, government agencies, and the general public. This information may be used to plan and evaluate public health programs and to assess cancer risk.

The tables and graphs in this report provide significant insight into the information available from records of both cancer incidence and mortality. The information presented is based on a consideration of data users' needs and a desire to provide information that is useful to the majority of readers. However, because of concerns about statistical reliability, the same detail cannot be presented for each of the primary sites described in this report. For instance, the data for the less common sites do not support reporting rates for them at the county level.

To request more detailed analysis of New Hampshire cancer data, or to obtain additional copies of this report, contact the Bureau of Health Statistics and Data Management, Department of Health and Human Services, 6 Hazen Drive, Concord, NH 03301, (603) 271-4477 or (800) 852-3345, Ext. 4477, or e-mail [healthstats@dhhs.state.nh.us](mailto:healthstats@dhhs.state.nh.us). Further information, as well as an electronic version of this report, is available on the BHSDM web site: [www.dhhs.state.nh.us/healthstats](http://www.dhhs.state.nh.us/healthstats).

## DATA SOURCES

### *Incidence*

Statistical information on newly diagnosed primary cancers is reported to the New Hampshire State Cancer Registry (NHSCR). The NHSCR database is comprised of abstract information on reportable cancers from New Hampshire acute care hospitals and their tumor registries, medical records departments, oncology departments, physicians, and private pathology laboratories. The Registry has reciprocal agreements for exchange of case information with the states of Massachusetts, Maine, Vermont, Rhode Island, Connecticut, New York, and Florida. The figures in this report are for newly diagnosed primary tumors, and not people newly diagnosed with cancer. It is possible that a single person could be represented multiple times in this report if they were diagnosed with more than one primary site (unrelated) tumors. Health care facilities in New Hampshire are required to report all cancer cases that are seen for diagnosis or treatment.

The data tables and figures in this report are based on invasive\* cancers only ( ), with the exception of bladder cancer (nationally, the invasiveness of bladder cancer is determined inconsistently by physicians, as a result the convention is to analyze all diagnoses together, including in situ cases). The tables and figures describing stage information are based on both invasive and in situ tumors. Can-

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\* Those tumors that have penetrated the basement membrane of the surrounding tissue, as opposed to in situ ("in place"), where penetration has not occurred.

cer cases include all neoplasms covered by ICD-9-CM (International Classification of Diseases, 9<sup>th</sup> revision, Clinical Modification) codes 140-239, and comparable ICD-0 codes, excluding the following (for more information regarding the ICD-9 and ICD-0 codes, please refer to the Appendix of this report):

- Other malignant neoplasms of the skin—ICD-9 CM code 173,
- Benign neoplasms—ICD-9 CM codes 210 to 229,
- Carcinoma in situ of skin—ICD-9 CM code 232, and
- Secondary neoplasms—ICD-9 CM codes 195 to 198.

Data are available 18 months after the close of the calendar year. For example, data for 1998 became available in June 2000. The annual report is usually released 6 months after the data are available. Occasionally, problems with data acquisition and data management are encountered that delay the report's publication. For the 2001 report, a four-month delay was encountered due to software upgrades and Y2K readiness. However, the data included in this report are the most recently available data at the time of publication.

### *Mortality*

Statistical information on deaths of New Hampshire residents is reported to the State Bureau of Vital Records (BVR), which collects records of all vital events that occur in New Hampshire. BVR also obtains copies of records of these events that occur out of state to New Hampshire residents. For this report, death records with an underlying cause of death coded as cancer as defined by ICD-9 codes 140-208.9 have been analyzed.

Confidentiality of all of these records is of utmost concern and is protected by state statute. Strict rules have been adopted to protect the privacy of individuals, yet allow for analysis of these records and publication of statistical reports.

### *Survival Statistics*

New Hampshire has not been collecting complete cancer incidence and mortality data for long enough to present reliable state-specific cancer survival data. Instead, this report presents national cancer survival statistics. In the future, when enough data is available, New Hampshire specific data will also be reported.

## **THE NEW HAMPSHIRE STATE CANCER REGISTRY (NHSCR)**

The National Cancer Institute (NCI), the American Cancer Society (ACS), and the Centers for Disease Control indicate that overall cancer incidence rates appear to be decreasing. However, this estimate is based on SEER, which bases its estimates on a sample of 14% of the national population that does not include New Hampshire. The ACS estimates that the total number of cancer cases in New Hampshire will increase to over 5,800 in 2001. Without a central cancer registry, it would be impossible to determine if reductions in cancer rates occur in New Hampshire and if resources are being directed appropriately. Cancer surveillance is the key to a unified scientific and public health approach to fighting cancer. Data collected through the NHSCR, New Hampshire's statewide, population-based cancer registry, provides a basis for identification of cancer trends and patterns within the state. Since 1987, the New Hampshire State Cancer Registry has been operated out of the Norris Cotton Cancer Center under a contract between the State and Dartmouth Medical School.

In 1984, NCI mortality statistics revealed that the number of cancer deaths in New Hampshire were above what was expected and above the national average each year from 1950-1979. As a consequence, individuals and organizations, including the New Hampshire Department of Health and Human Services and the American Cancer Society, helped create the Coalition Against Cancer. The efforts of this group subsequently lead to the promulgation of the State's Chronic Disease Prevention

and Control Act, established the Governor's Advisory Panel on Cancer and Chronic Disease, and designated cancer as a reportable disease in the state.

In 1995, the NHSCR began to make enhancements to the registry infrastructure and to case ascertainment and quality assurance processes through their participation in the first round of the CDC's National Program for Cancer Registries (NPCR). The NPCR program was started to ensure all states would have sufficient funding to establish and/or enhance cancer registries that met national standards. National central cancer registry standards are a composite of several cancer surveillance initiatives: the NCI SEER program, the American College of Surgeons Committee on Cancer (COC), and the NPCR program requirements. The National Association of Central Cancer Registries, in collaboration with these three programs, derives and publishes standards for timeliness, completeness, and quality of cancer registry data. In addition, NAACCR certifies the quality of central cancer registry data for all registries in North America, including SEER registries. The NHSCR achieved the highest possible level of certification from the NAACCR in 2000 and 2001 for diagnosis years 1997 and 1998, which are included in this report. The CDC NPCR recently conducted a far more comprehensive review of the quality and completeness of data for NPCR registries covering data years 1995-1999. The NHSCR completeness and accuracy equaled or exceeded the norm for SEER registries for those years.

## A NOTE ON RACE, ETHNICITY AND CANCER

The Department of Health and Human Services (DHHS) is committed to presenting its data by race and ethnicity whenever possible. Race specific statistics are not provided in this report, because too few cases were reported to allow reliable analysis. Less than 1% of all newly diagnosed cancers and deaths due to cancer occurred among non-whites (this is consistent with the percentage of the non-white population in New Hampshire in the older age groups most affected by cancer). DHHS will continue to monitor the burden of cancer on minority populations and, if the numbers reliably support analysis by race and ethnicity, future reports will present those results.

In order to express DHHS's commitment to assessing health disparities in minority populations, the following findings from the *National Cancer Institute's Racial/Ethnic Patterns of Cancer in the United States, 1988-1992* offers evidence of some of the cancer-related differences that have been noted nationally\*. The addition of this section will serve as a placeholder for more information in future publications.

"Cancer affects various population subgroups in the United States in distinct ways. Statistics in this report show that black men have the highest incidence rate of cancer, due to excesses of prostate and lung and bronchus cancers, while American Indian men in New Mexico have the lowest rate. Among women, non-Hispanic white women have the highest incidence rate, due mainly to their excess of breast cancer, while American Indian women in New Mexico and Korean women have the lowest rates.

Interestingly, the five most commonly diagnosed cancers among men in every racial/ethnic group include lung and bronchus, prostate and colorectal cancers. Oral cancers, however, are among the five most frequently diagnosed cancers only in black men and cancers of the kidney and renal pelvis are uniquely among the top five cancers in Alaska Native and American Indian (New Mexico) men. In women, cancer of the breast, lung and bronchus, and colon and rectum are among the top five cancers in every racial/ethnic group except American Indians (New Mexico). The high incidence of cervical cancer in Vietnamese women is a matter for concern and suggests a need to focus prevention and control efforts on this group. Cancers of the kidney and renal pelvis are uniquely high in Alaska Native women, mirroring the high rates seen in Alaska Native men.

Achieving better cancer control within minority and underserved populations in the United States is an important goal of the National Cancer Institute (NCI). Cancer control has been defined as the reduction of cancer incidence, mortality, and morbidity through an ordered sequence

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\* Miller BA, Kolonel LN, Bernstein L, Young, Jr. JL, Swanson GM, West D, Key CR, Liff JM, Glover CS, Alexander GA, et al. (eds). *Racial/Ethnic Patterns of Cancer in the United States 1988-1992*, National Cancer Institute. NIH Pub. No. 96-4104. Bethesda, MD, 1996.

of research and interventions designed to alter cancer rates. Knowledge gained through research on specific interventions to improve cancer rates must be applied toward reducing the burden of cancer among minority populations.

Specific activities supported by the NCI, include:

- 1) cancer surveillance, including special tracking of cancer rates among minority populations;
- 2) recruiting members of minority populations into clinical trials;
- 3) increasing and improving research targeting minority populations and increasing the participation of members of minority populations in the fields of biomedical research and medical practice; and
- 4) instituting community-based national education and outreach initiatives which target specific minority and underserved populations.”

### **A NOTE ON PREVENTION, SCREENING AND EARLY DETECTION**

Several types of cancer are considered preventable and the prospects for surviving cancer continue to improve. The American Cancer Society estimates that in 1999 about one third of cancer deaths were caused by tobacco use and that an additional third can be attributed to poor diet and insufficient physical activity. Lung cancer, the most common cause of cancer death, is largely attributable to smoking. Excess body fat and alcohol consumption can contribute to breast cancer. Consuming less dietary fat, while increasing fruit and vegetable consumption, can reduce the risk of contracting colorectal cancers. Physical activity and weight control also can contribute to cancer prevention. Cancer research continues to link these physical and behavioral traits to cancer incidence and mortality. For this reason, this reports includes behavior-related data for New Hampshire residents whenever possible and appropriate.

# USER'S GUIDE TO THE REPORT

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## *How to use this report*

This report is organized into three major sections: an executive summary (included as a separate document in the inside front cover pocket), the main report, and an appendix. The executive summary is a smaller version of the report, summarizing the overall cancer burden in New Hampshire using mortality data from the New Hampshire Bureau of Vital Records and incidence data (newly diagnosed cases) acquired by the New Hampshire State Cancer Registry. The executive summary is intended to stand on its own as a synopsis of the main report.

The main report includes the information provided within the executive summary and provides more detail about each of the 23 main cancer sites. Each primary site is evaluated using incidence and mortality data and age-adjusted rates where appropriate. Information from the National Cancer Institute and the American Cancer Society on risk factors, age of onset, early detection and screening, and other relevant facts are also included when available. When data was available and reliable, significant results at the county level have been included.

Within each of the 23 primary site summaries, there are icons identifying other data sources that provide information related to that specific cancer.



Indicates goals of the Healthy New Hampshire 2010, New Hampshire's first disease prevention and health promotion agenda.



Indicates data from the 1998 New Hampshire Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey of residents assessing risk behaviors and attitudes pertinent to health.

It is important to use as many data sources as possible to fully understand the path of a particular cancer. As noted earlier, research links to personal health behaviors that can prevent or delay a cancer are continually being reported. Annual medical screenings to detect cancers in their earliest stage can prevent a cancer from resulting in premature death. These indicators are assessed through the BRFSS survey. The incidence data are acquired by hospitals submitting data to the NHSCR, and cancer deaths are tabulated through the filing of death certificates. National benchmarks like SEER are also important because they allow the state to compare itself to others, review which cancers are higher or lower than the nation, and decide which cancers are priorities. All of these sources are combined in this report to provide readers with a comprehensive view of the cancer burden in New Hampshire.

The last section of this report contains an appendix to provide the reader with technical assistance regarding cancer coding, population estimates, data quality, stage definitions, and other considerations relevant to using cancer data.

# FREQUENTLY ASKED QUESTIONS

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 *I am interested in looking at cancer rates by year, but when I read the report, I find only 5-year rates. Why?*

Answer: Rates need to be calculated with at least 20 events in the numerator. Calculating a rate based on less than 20 events in the numerator creates an unstable estimate that is not statistically reliable and varies greatly from year to year by chance alone. Therefore, generating rates based on small numbers can lead to errors in interpretation. For this reason, years of data are aggregated to create a more stable rate that can be used to compare cancer by type or by another variable of interest.

 *I would like to see the different types of cancer in my town, but cannot find this information in the report. Why doesn't this report show town-level data?*

Answer: New Hampshire is a small state with 234 cities and towns. In a given year, the number of newly diagnosed cancers or cancer deaths is too small to generate meaningful results on a town level. However, data are summarized by county to provide information that is more detailed than state level data.

 *On page 3, I notice that in 1998 pancreatic cancer caused 125 deaths and 126 new cancer diagnoses. Are these cases the same people? If so, can I make conclusions about the lethality of a certain type of cancer based on a death to new cases comparison?*

Answer: Some of deaths may be the same as the people diagnosed in the current year and some may have been diagnosed in previous years. Pancreatic cancer is usually not diagnosed until an advanced stage. Comparisons between the number of new cases diagnosed and the number of deaths can be used as a rough illustration of the lethality of a cancer type, given the typical stage of diagnosis, but should not be used as the sole source of mortality or survival rates for any cancer type.

 *I've noticed a lot of cancer cases on my street and in my town. Who can I contact at the state if I want this investigated further?*

Answer: Often what can look like an increase of cancer in a community is really increased awareness about cancer in general. However, there are rare circumstances where the cancer clusters are observed. Please contact the Bureau of Health Risk Assessment (603-271-4664) for a review of your concerns and to see if your area should be a candidate for further investigation.

 *Where can I get more detailed information on cancer treatment, prevention, and research?*

Answer: The National Cancer Institute website is a very good general resource for all types of cancer concerns. The website address is <http://cancer.gov>

 *How is cancer defined in this report?*

Answer: Cancer rates and case reports included in this report are invasive and malignant, except for bladder cancer where in situ cases are included (bladder cancer staging is very difficult to determine and nationally is performed inconsistently, therefore the convention is to analyze all cases). Data presented on the stage at which the cancer was diagnosed do include in situ

cases where those cases are required to be reported. Because they are so common and are typically treatable, in situ cases of melanoma and cervical cancer are not reportable to the state.

**?** *All of the rate information for the total population is identified as “age-adjusted.” What does this mean and why is it done?*

Answer: In order to compare groups where proportions of age groups are different, an adjustment needs to be made to make the age groups comparable. For example, the rate of lung cancer in New Hampshire may look higher than that of the United States. However, if New Hampshire has fewer younger people than the United States as a whole, its rate will appear higher. Once the two rates are adjusted to control for the differences in age distribution, the rates may not look different at all.

**?** *Throughout the report, SEER is mentioned. What is SEER?*

Answer: The Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute collects and publishes cancer incidence and survival data from 11 population-based cancer registries and three supplemental registries covering approximately 14 percent of the U.S. population. Geographic areas were selected for inclusion in the SEER Program based on their ability to operate and maintain a high quality population-based cancer reporting system and for their epidemiologically significant population subgroups. The population covered by SEER is comparable to the general U.S. population with regard to measures of poverty and education. The SEER population tends to be somewhat more urban and has a higher proportion of foreign-born persons than the general U.S. population. SEER is used as the reference for national estimates of cancer diagnosis. NH data is not included in the SEER program.

**?** *I’m interested in bone cancer, but I do not see mention of it in this report. Why? How do I get this information?*

Answer: Bone cancer is a very rare condition and therefore is not included in the 23 primary cancer sites. Many other rare cancers are also excluded from this report because the numbers are too small for meaningful tabulations. If you would like analysis on any of these cancers, please contact the Bureau of Health Statistics (603-271-4477) for assistance.

**?** *This report summarizes data from 1998. It is now 2001. Why is there such a long time between data acquisition and publication?*

Answer: Data are available 18 months after the close of the calendar year. For example, data for 1999 would become available in June 2001. The annual report is usually released 6 months after the data are available. Occasionally, problems with data acquisition and data management are encountered that delay the report’s publication. For the 2001 report, a four-month delay was encountered due to software upgrades and Y2K readiness. The data included in this report are the most recently available data at the time of publication.

# SUMMARY OF ALL PRIMARY SITES

## 1. New Cases and Deaths by Sex and Primary Site ■ 1998

	New Cases Diagnosed			Deaths		
	Total	Male	Female	Total	Male	Female
<b>All Sites (includes sites not grouped below)</b>	5,271	2,683	2,588	2,427	1,252	1,175
<b>Bladder</b>	286	208	78	62	37	25
<b>Brain and other CNS</b>	81	36	45	64	38	26
<b>Breast (Female)</b>			850			183
<b>Cervix Uteri</b>			56			20
<b>Colon and Rectum</b>	615	321	294	258	130	128
<b>Corpus Uteri</b>			144			36
<b>Esophagus</b>	66	46	20	62	47	15
<b>Hodgkin's Disease</b>	40	24	16	6	5	1
<b>Kidney and Renal Pelvis</b>	108	72	36	63	32	31
<b>Larynx</b>	60	51	9	11	10	1
<b>Leukemias</b>	135	79	56	84	53	31
<b>Liver</b>	51	39	12	50	36	14
<b>Lung and Bronchus</b>	830	465	365	688	389	299
<b>Melanomas of the Skin</b>	216	137	79	38	26	12
<b>Multiple Myeloma</b>	59	34	25	45	23	22
<b>Non-Hodgkin's Lymphomas</b>	225	124	101	103	60	43
<b>Oral Cavity and Pharynx</b>	112	76	36	42	27	15
<b>Ovary</b>			94			59
<b>Pancreas</b>	126	64	62	125	63	62
<b>Prostate</b>		658			109	
<b>Stomach</b>	66	46	20	49	34	15
<b>Testis</b>		29			3	
<b>Thyroid</b>	57	21	36	3	0	3

In 1998, there were 5,271 total cases of invasive cancer reported in New Hampshire (throughout the report, except for bladder cancer as explained in the Introduction, in situ cases are not included in any counts, except where staging is discussed). As shown in the above table, the most common forms of cancer are breast (33% of female cancers), lung (16% of all cancers), prostate (24% of male cancers), and colorectal (12% of all cancers). These four groups account for 56% of total cancers diagnosed.

The number of deaths due to cancer totaled 2,427 in 1998. Variation in early detection and treatment among cancer types result in deaths being more broadly distributed than diagnoses. Lung cancer was the most frequent cause of death among both men (31%) and women (25%). The other common forms of cancer: breast (16% of female deaths), colorectal (11% of all deaths), and prostate (9% of male deaths), caused a lower proportion of deaths than the proportion diagnosed.

## 2. New Cases and Age-Adjusted Incidence Rates by Sex and Primary Site ■ New Hampshire, 1994-1998, US (SEER) White 1996 Comparison Rates

	Total			Male			Female		
	NH Cases	NH Rate	1996 US (SEER)	NH Cases	NH Rate	1996 US (SEER)	NH Cases	NH Rate	1996 US (SEER)
<b>All Sites (includes sites not grouped below)</b>	25,782	<b>406.1</b>	396.9	13,149	<b>469.4</b>	458.2	12,633	361.1	354.7
Bladder	1,416	<b>22.0</b>	17.7	1,040	37.2	30.4	376	<b>10.1</b>	8.1
Brain and other CNS	416	7.1	6.4	229	8.1	8.0	187	<b>6.1</b>	5.1
Breast (Female)							3,979	116.4	115.5
Cervix Uteri							261	7.4	7.1
Colon and Rectum	3,211	<b>48.3</b>	42.8	1,622	<b>57.6</b>	51.3	1,589	<b>40.5</b>	35.9
Corpus Uteri							740	22.5	22.2
Esophagus	309	<b>5.1</b>	3.6	228	<b>8.5</b>	6.2	81	<b>2.1</b>	1.6
Hodgkin's Disease	188	3.0	2.9	104	3.3	3.3	84	2.7	2.5
Kidney and Renal Pelvis	546	8.8	9.5	338	12.0	13.3	208	5.9	6.4
Larynx	309	<b>5.2</b>	3.8	245	<b>9.1</b>	6.6	64	<b>2.0</b>	1.4
Leukemias	604	9.8	10.2	343	12.4	12.9	261	7.7	8.1
Liver	186	<b>2.9</b>	3.6	129	<b>4.6</b>	5.4	57	<b>1.5</b>	2.1
Lung and Bronchus	3,823	<b>61.5</b>	55.8	2,151	<b>77.1</b>	70.4	1,672	<b>49.6</b>	44.8
Melanomas of the Skin	918	<b>14.3</b>	16.5	540	<b>18.5</b>	20.2	378	<b>10.8</b>	13.7
Multiple Myeloma	273	4.2	4.1	151	5.3	5.2	122	3.2	3.2
Non-Hodgkin's Lymphomas	926	<b>14.4</b>	16.3	496	<b>17.3</b>	20.1	430	12.1	13.0
Oral Cavity and Pharynx	595	9.6	9.8	404	14.4	14.4	191	5.6	5.9
Ovary							531	15.8	15.6
Pancreas	551	8.6	8.5	263	9.4	9.9	288	7.8	7.3
Prostate				3,534	129.5	132.5			
Stomach	369	5.6	5.7	250	8.8	8.5	119	<b>2.9</b>	3.5
Testis				170	4.7	5.5			
Thyroid	256	<b>3.8</b>	5.7	63	<b>1.9</b>	3.1	193	<b>5.6</b>	8.3

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population (see appendix for an explanation of age adjustment).

New Hampshire rates in **bold italic** type are significantly different from the SEER rates at the 95% confidence interval (see appendix for a description of the statistical methods used).

Rates in New Hampshire are significantly **higher** compared to national (SEER) estimates for the following primary sites:

- Overall Population: Bladder, Colorectal, Esophageal, Larynx, Lung
- Male: Bladder, Colorectal, Esophageal, Lung
- Female: Bladder, Brain, Colorectal, Esophageal, Lung

Rates in New Hampshire are significantly **lower** compared to SEER estimates for the following primary sites:

- Overall Population: Liver, Melanoma, Non-Hodgkin's Lymphoma, Thyroid
- Male: Liver, Melanoma, Non-Hodgkin's Lymphoma, Thyroid
- Female: Liver, Melanoma, Stomach, Thyroid

### 3. Deaths and Age-Adjusted Mortality Rates by Sex and Primary Site ■ New Hampshire, 1994-1998, 1996 U.S. White Comparison Rates

	Total			Male			Female		
	NH Deaths	NH Rate	1996 US Rate	Deaths	NH Rate	1996 US Rate	Deaths	NH Rate	1996 US Rate
All Sites (includes sites not grouped below)	11,808	<b>176.5</b>	163.5	6,037	<b>212.6</b>	200.9	5,771	<b>151.4</b>	137.7
Bladder	298	<b>4.1</b>	3.3	195	<b>6.7</b>	5.7	103	2.1	1.7
Brain and other CNS	312	5.1	4.5	183	<b>6.4</b>	5.4	129	3.8	3.7
Breast (Female)							928	24.4	23.9
Cervix Uteri							80	2.3	2.4
Colon and Rectum	1,302	<b>18.7</b>	16.3	608	21.4	20.0	694	<b>16.4</b>	13.6
Corpus Uteri							153	3.7	3.1
Esophagus	285	<b>4.5</b>	3.4	214	<b>7.8</b>	5.9	71	1.8	1.3
Hodgkin's Disease	36	0.5	0.5	19	-	0.5	17	-	0.4
Kidney and Renal Pelvis	249	3.8	3.6	144	5.2	5.1	105	2.8	2.3
Larynx	77	1.3	1.2	63	2.2	2.1	14	-	0.5
Leukemias	432	6.3	6.4	233	8.1	8.3	199	5.0	4.9
Liver	214	3.3	3.3	136	4.9	4.7	78	2.0	2.2
Lung and Bronchus	3,236	<b>50.6</b>	48.6	1,833	65.4	66.6	1,403	<b>39.8</b>	35.0
Melanomas of the Skin	165	2.5	2.6	101	3.6	3.6	64	1.7	1.7
Multiple Myeloma	197	2.8	2.8	107	3.7	3.5	90	2.1	2.3
Non-Hodgkin's Lymphomas	525	7.7	7.2	281	9.8	8.9	244	6.0	5.9
Oral Cavity and Pharynx	205	<b>3.2</b>	2.4	136	<b>4.9</b>	3.6	69	1.8	1.4
Ovary							299	8.1	7.6
Pancreas	585	<b>8.9</b>	8.0	291	10.4	9.3	294	7.7	7.0
Prostate				660	22.5	21.9			
Stomach	251	3.6	3.5	162	5.7	5.1	89	2.0	2.4
Testis				8	-	0.2			
Thyroid	16	-	0.4	5	-	0.3	11	-	0.4

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population (see appendix for an explanation of age adjustment).

Rates are not displayed if fewer than 20 cases were reported (noted as -).

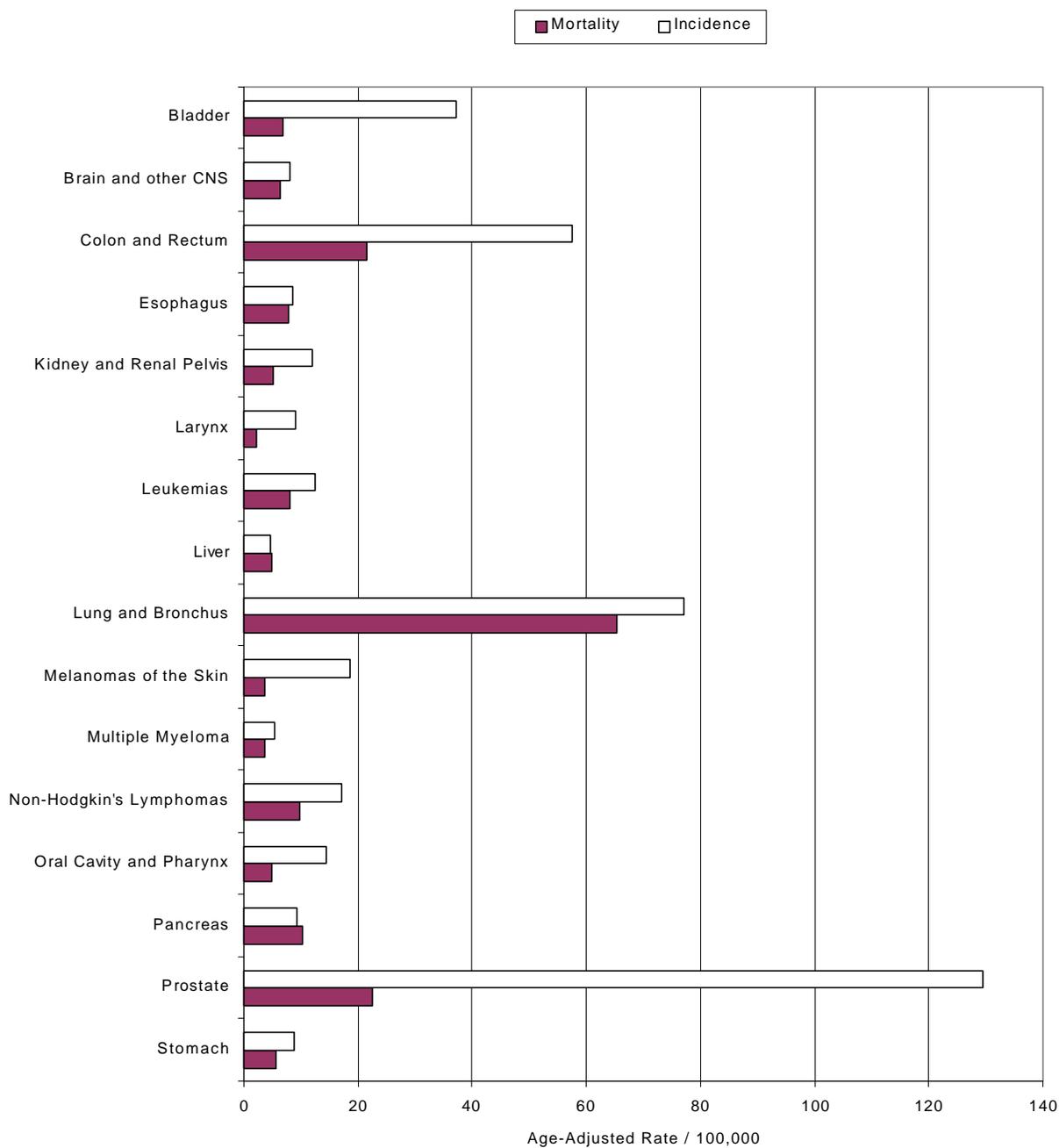
New Hampshire rates in **bold italic** type are significantly different from the SEER rates at the 95% confidence interval (see appendix for a description of the statistical methods used).

Rates in New Hampshire are significantly **higher** compared to national rates for the following primary sites:

- Overall Population: Bladder, Colorectal, Esophageal, Lung, Oral Cavity, Pancreas
- Male: Bladder, Esophageal, Oral Cavity
- Female: Colorectal, Lung

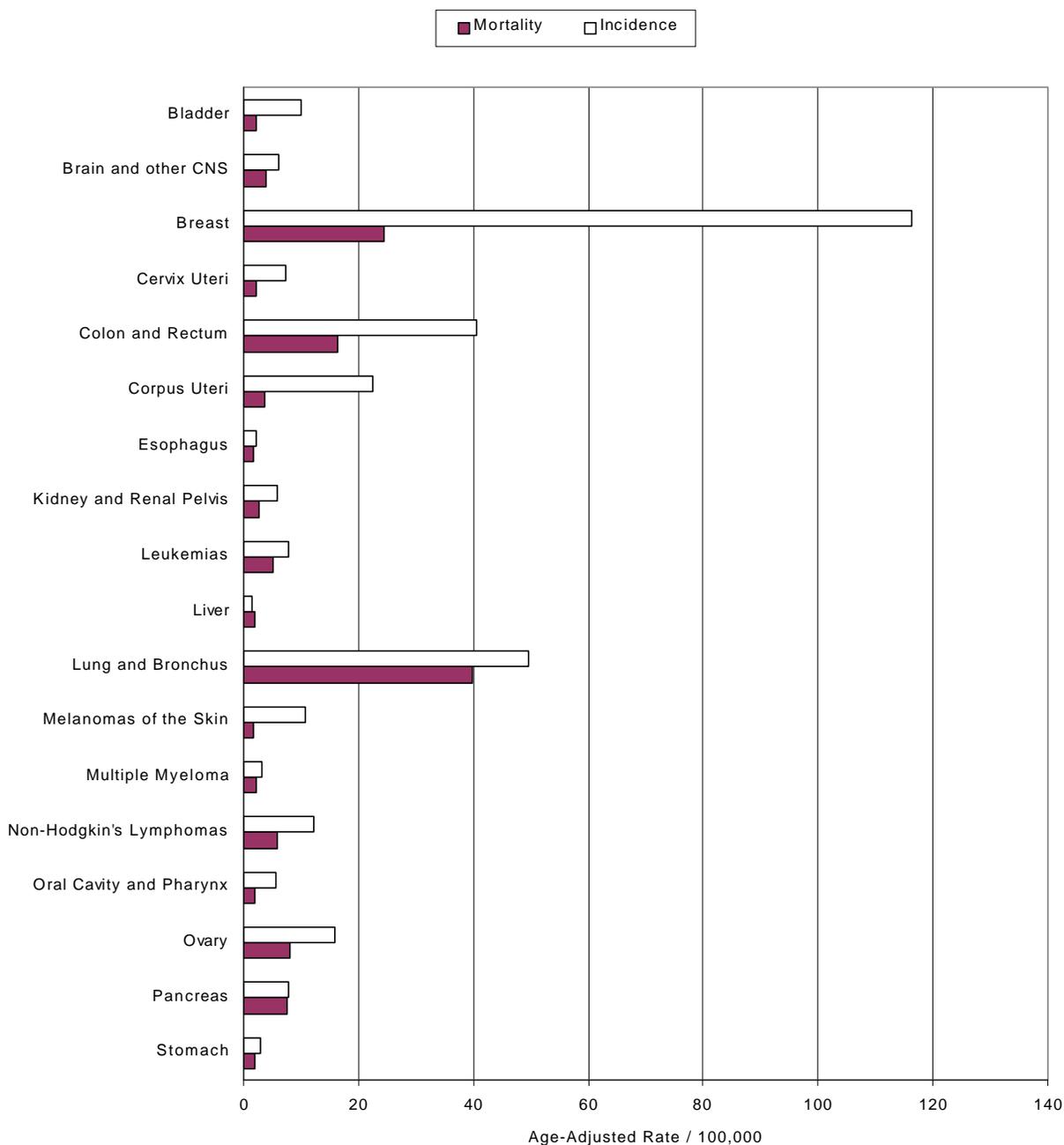
New Hampshire is not significantly lower in cancer mortality rates for any site when compared to national rates.

4. Male Age-Adjusted Incidence and Mortality Rates for Selected Primary Sites ■ 1994-1998



Note: The site groups above are those with 20 or more deaths over the five-year period.

5. Female Age-Adjusted Incidence and Mortality Rates for Selected Primary Sites ■  
1994-1998

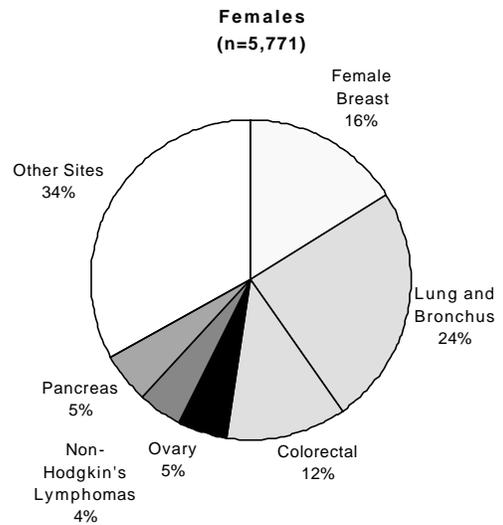
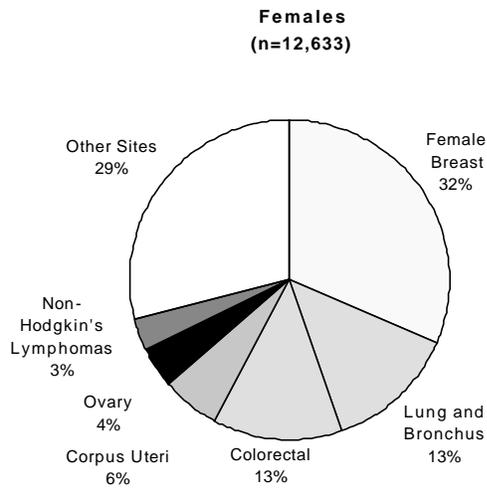
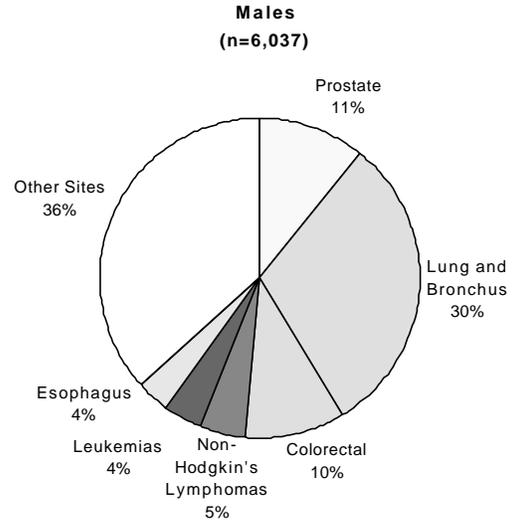
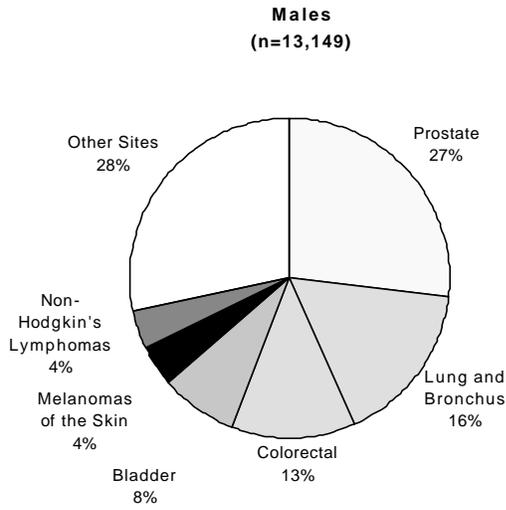


Note: The site groups above are those with 20 or more deaths over the five-year period.

6. Distribution of Cancer Incidence and Mortality by Site and by Sex ■ 1994-1998

Distribution of Cancer Incidence, 1994-1998

Distribution of Cancer Mortality, 1994-1998



## 7. New Cases by Sex, Age, and Primary Site ■ 1998

Primary Site Group	<15	15-24	25-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
<b>Male</b>															
Bladder	1	0	0	4	5	5	8	21	27	28	33	41	21	14	208
Brain and other CNS	5	3	2	4	2	1	8	1	1	4	1	2	2	0	36
Colorectal	0	0	5	1	4	10	34	25	33	42	48	55	38	26	321
Esophagus	0	0	0	1	2	0	4	6	6	11	6	6	4	0	46
Hodgkin's Disease	0	5	4	5	3	2	0	1	1	0	0	0	2	1	24
Kidney and Renal Pelvis	1	0	1	2	2	8	7	13	13	7	8	4	6	0	72
Larynx	0	0	0	1	1	3	3	8	7	7	7	7	4	3	51
Leukemias	9	0	3	3	7	1	6	6	6	8	8	6	9	7	79
Liver	1	1	0	1	3	1	0	3	3	6	9	5	3	3	39
Lung and Bronchus	0	0	1	3	13	19	25	35	58	82	101	75	34	19	465
Melanomas of the Skin	0	3	10	10	10	6	18	18	14	13	11	10	7	7	137
Multiple Myeloma	0	0	2	0	0	2	3	3	4	7	7	2	3	1	34
Non-Hodgkin's Lymphomas	2	2	7	3	6	5	7	13	12	14	18	16	9	10	124
Oral Cavity and Pharynx	0	0	1	2	3	7	11	16	6	7	9	9	3	2	76
Pancreas	0	0	0	0	3	3	3	9	8	8	11	9	3	7	64
Prostate	0	0	0	0	2	14	31	80	95	148	130	88	42	28	658
Stomach	0	0	0	0	0	1	4	7	3	4	11	4	9	3	46
Testis	0	1	13	2	6	3	2	0	1	0	1	0	0	0	29
Thyroid	1	0	1	6	4	4	1	1	0	1	0	2	0	0	21
Male Total of All Cancer Sites (including sites not grouped above)	22	19	55	55	82	98	183	279	315	417	440	363	213	142	2,683
<b>Female</b>															
Bladder	0	0	0	2	1	3	9	7	2	7	18	14	8	7	78
Brain and other CNS	7	1	1	2	1	2	4	5	7	3	7	4	0	1	45
Breast (Female)	0	0	14	27	62	84	105	75	67	99	119	85	50	63	850
Cervix Uteri	0	1	11	7	5	5	6	5	1	8	3	0	1	3	56
Colorectal	0	0	5	1	6	8	12	24	17	32	41	60	40	48	294
Corpus Uteri	0	0	3	2	2	8	19	23	19	17	24	8	7	12	144
Esophagus	0	0	0	0	1	1	0	1	0	4	6	3	0	4	20
Hodgkin's Disease	0	3	3	1	3	1	0	1	0	0	0	2	2	0	16
Kidney and Renal Pelvis	1	0	1	0	2	2	2	2	2	4	7	5	7	1	36
Larynx	0	0	0	0	0	1	0	0	3	0	4	0	1	0	9
Leukemias	3	1	1	3	1	3	3	2	6	7	8	5	10	3	56
Liver	0	0	0	0	0	1	0	0	0	2	3	2	1	3	12
Lung and Bronchus	0	0	0	4	10	8	23	36	37	69	61	59	37	21	365
Melanomas of the Skin	0	0	11	9	9	5	10	5	5	6	5	5	6	3	79
Multiple Myeloma	0	0	0	0	1	2	1	3	1	4	4	6	2	1	25
Non-Hodgkin's Lymphomas	1	4	5	3	6	3	5	6	10	7	13	14	15	9	101
Oral Cavity and Pharynx	0	1	2	1	3	0	2	2	2	6	7	5	1	4	36
Ovary	1	2	7	5	5	6	12	2	10	10	9	8	9	8	94
Pancreas	0	0	0	1	1	1	2	3	3	7	13	11	13	7	62
Stomach	0	0	0	1	0	1	0	1	2	2	4	5	1	3	20
Thyroid	0	5	6	2	5	3	2	3	3	4	0	1	0	2	36
Female Total of All Cancer Sites (including sites not grouped above)	15	20	76	76	133	153	232	214	209	315	377	320	223	225	2,588

## 8. Deaths by Sex, Age, and Primary Site ■ 1998

Primary Site Group	<15	15-24	25-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
<b>Male</b>															
Bladder	0	0	0	0	0	1	3	2	3	5	10	3	7	3	37
Brain and other CNS	2	0	3	1	3	1	9	5	3	4	1	2	4	0	38
Colorectal	0	0	0	1	2	1	8	6	14	17	22	23	22	14	130
Esophagus	0	0	1	0	1	1	6	3	8	8	9	3	4	3	47
Hodgkin's Disease	0	1	0	1	0	0	1	0	0	0	0	0	1	1	5
Kidney and Renal Pelvis	0	0	0	1	2	2	2	4	5	3	6	3	4	0	32
Larynx	0	0	0	0	0	1	0	1	2	1	2	2	1	0	10
Leukemias	0	2	3	0	2	3	1	2	3	4	5	9	8	11	53
Liver	0	0	0	0	2	1	1	2	5	6	6	6	3	4	36
Lung and Bronchus	0	0	0	4	5	11	23	19	52	65	81	59	42	28	389
Melanomas of the Skin	0	0	0	2	3	2	3	3	4	1	2	2	2	2	26
Multiple Myeloma	0	0	1	1	0	2	1	1	2	4	3	4	1	3	23
Non-Hodgkin's Lymphomas	1	0	0	0	1	0	0	3	9	10	9	11	10	6	60
Oral Cavity and Pharynx	0	0	0	0	2	2	3	2	3	3	5	2	4	1	27
Pancreas	0	0	0	0	3	3	3	6	10	11	8	10	2	7	63
Prostate	0	0	0	0	0	0	2	2	5	3	10	29	29	29	109
Stomach	0	0	0	0	2	1	8	1	8	5	2	4	3	3	34
Testis	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
Thyroid	0	0	0	0	0	1	3	2	3	5	10	3	7	3	37
Male Total of All Cancer Sites (including sites not grouped above)	4	6	12	14	30	37	72	77	144	170	209	192	162	123	1,252
<b>Female</b>															
Bladder	0	0	0	0	0	1	0	2	1	1	5	3	3	9	25
Brain and other CNS	1	0	2	2	1	1	1	1	5	2	6	2	0	2	26
Breast (Female)	0	0	2	3	6	12	21	7	16	18	21	23	20	34	183
Cervix Uteri	0	0	1	1	2	2	4	0	0	2	2	0	4	2	20
Colorectal	0	0	1	0	2	2	7	7	9	10	14	23	24	29	128
Corpus Uteri	0	0	1	0	0	1	0	3	4	3	5	3	5	11	36
Esophagus	0	0	0	0	0	0	0	1	1	2	2	2	3	4	15
Hodgkin's Disease	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Kidney and Renal Pelvis	0	0	0	0	0	1	3	0	5	1	4	1	10	6	31
Larynx	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Leukemias	0	0	1	2	1	1	0	2	3	4	6	2	6	3	31
Liver	0	0	0	0	0	0	1	1	0	2	3	3	1	3	14
Lung and Bronchus	0	0	0	2	6	10	16	21	35	53	44	51	34	27	299
Melanomas of the Skin	0	1	1	1	0	3	0	0	1	1	1	2	0	1	12
Multiple Myeloma	0	0	0	0	0	0	1	2	1	1	3	6	4	4	22
Non-Hodgkin's Lymphomas	0	0	3	0	1	2	0	1	1	5	3	10	5	12	43
Oral Cavity and Pharynx	0	0	0	0	0	0	1	3	1	2	1	3	1	3	15
Ovary	0	0	2	1	2	1	4	6	4	5	9	9	6	10	59
Pancreas	0	0	0	0	3	2	2	4	5	4	15	8	9	10	62
Stomach	0	0	0	1	0	0	0	1	0	1	3	4	2	3	15
Thyroid	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3
Female Total of All Cancer Sites (including sites not grouped above)	1	3	16	15	26	45	70	68	101	128	163	177	154	208	1,175

# BLADDER

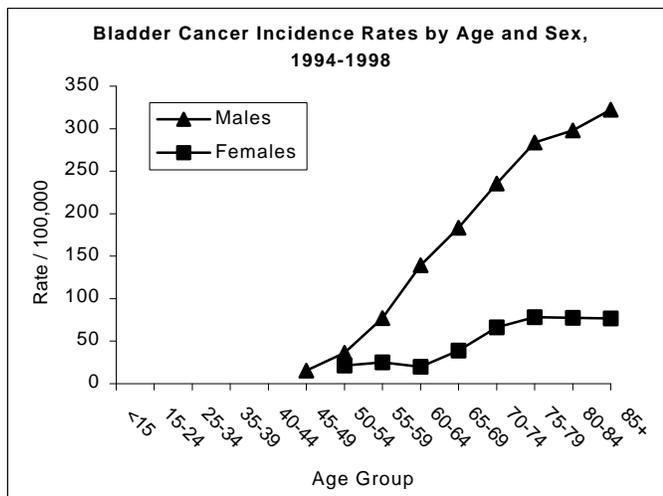
## SUMMARY

Bladder cancer is the most common location for malignancies in the urinary tract. About 90 percent of bladder cancers are transitional cell carcinomas, these are cancers that begin in the cells lining the bladder.

**Age Most Often Affected:** 60+

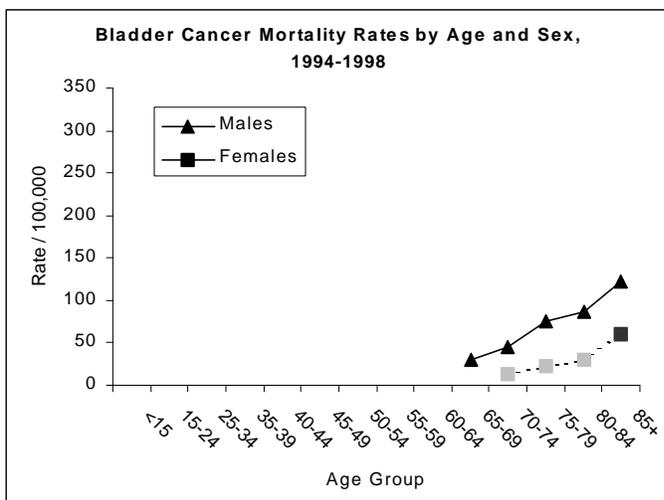
**Gender Most Often Affected:** Male

**Survival Information:** Survivability depends greatly on the stage at which the cancer is discovered; with early diagnosis, 5-year survival rates are 95%. However, 5-year survival rates for later diagnosis of bladder cancer with distant metastases are 10-15%.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	286	<b>22.0</b>	17.7	62	<b>4.1</b>	3.3
Male	208	<b>37.2</b>	30.4	37	<b>6.7</b>	5.7
Female	78	<b>10.1</b>	8.1	25	2.1	1.7

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Smokers are more than twice as likely to get bladder cancer as those who don't smoke.
- Occupational exposures to some aromatic and organic chemicals, for example textile industries, painters, chemical workers, and hairdressers.

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

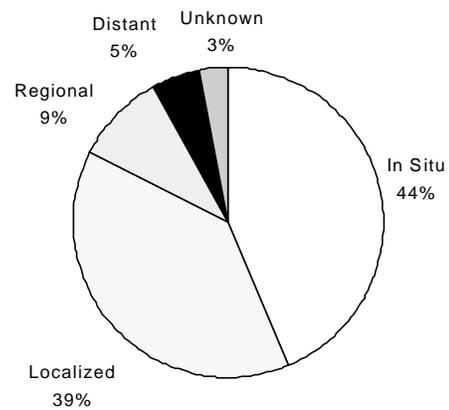


22% of NH adults are current smokers.

9. Bladder: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	19	13	6	2	1	1
Carroll	13	5	8	2	1	1
Cheshire	20	18	2	6	3	3
Coos	10	7	3	4	4	0
Grafton	26	15	11	6	4	2
Hillsborough	67	52	15	13	5	8
Merrimack	31	23	8	5	3	2
Rockingham	54	43	11	11	8	3
Strafford	31	20	11	11	7	4
Sullivan	15	12	3	2	1	1
<b>State Total</b>	<b>286</b>	<b>208</b>	<b>78</b>	<b>62</b>	<b>37</b>	<b>25</b>

10. Bladder: Stage at Diagnosis ■ 1998



11. Bladder: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	3	-	2	-	1	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	9	-	3	-	6	-	0	-	0	-	0	-
35-39	17	-	14	-	3	-	0	-	0	-	0	-
40-44	26	5.2	15	-	11	-	0	-	0	-	0	-
45-49	40	9.7	32	15.3	8	-	6	-	3	-	3	-
50-54	90	28.8	57	36.5	33	21.2	12	-	10	-	2	-
55-59	117	51.1	88	77.3	29	25.2	10	-	7	-	3	-
60-64	150	77.5	130	139.2	20	19.9	11	-	9	-	2	-
65-69	216	106.5	174	183.3	42	38.9	34	16.8	29	30.5	5	-
70-74	251	141.1	185	235.6	66	66.4	50	28.1	36	45.8	14	-
75-79	228	163.2	164	283.9	64	78.1	61	43.7	43	74.4	18	-
80-84	151	158.2	104	298.0	47	77.6	49	51.3	31	88.8	18	-
85+	117	142.6	71	322.3	46	76.6	65	79.2	27	122.6	38	63.3
<b>Age-Adjusted</b>	<b>1,415</b>	<b>22.0</b>	<b>1,039</b>	<b>37.1</b>	<b>376</b>	<b>10.0</b>	<b>298</b>	<b>4.1</b>	<b>195</b>	<b>6.7</b>	<b>103</b>	<b>2.1</b>

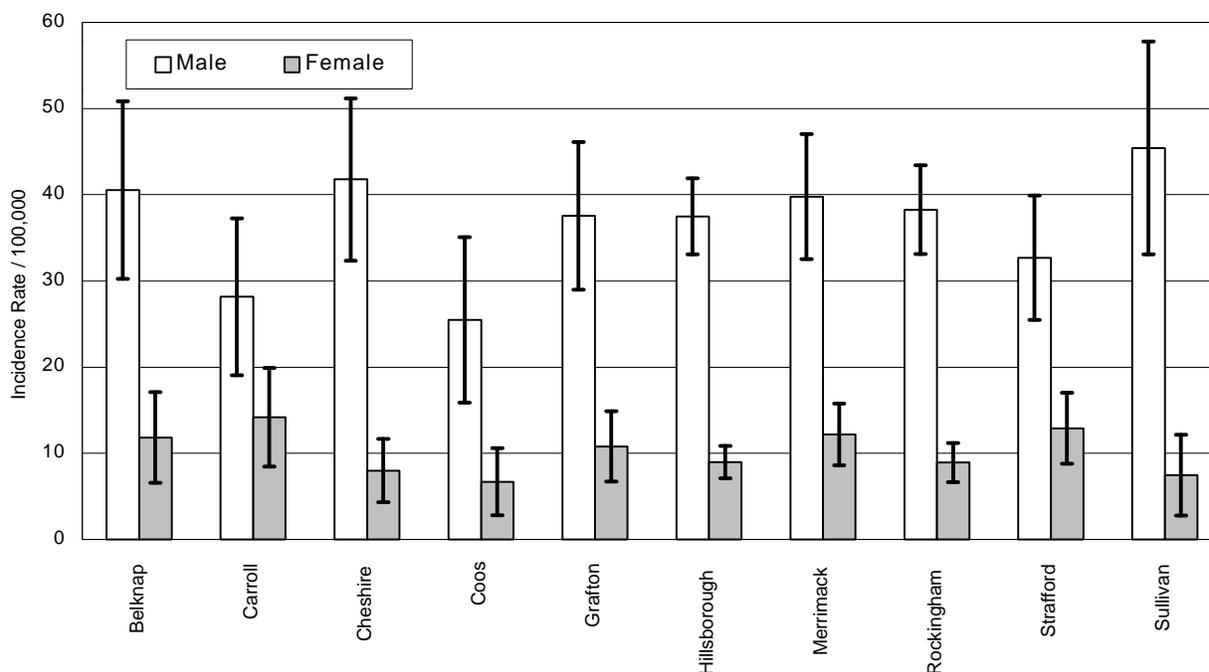
Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

### 12. Bladder: Age-Adjusted Incidence and Mortality Rates by Sex and County ■ 1994-1998

County	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	86	25.2	63	40.5	23	11.8	16	-	13	-	3	-
Carroll	65	20.7	39	28.2	26	14.2	21	6.0	14	-	7	-
Cheshire	99	23.1	78	41.8	21	8.0	16	-	9	-	7	-
Coos	43	<b>14.9</b>	29	25.5	14	-	20	6.4	13	-	7	-
Grafton	106	22.8	76	37.5	30	10.8	21	3.9	13	-	8	-
Hillsborough	379	21.1	284	37.5	95	9.0	82	3.9	48	6.2	34	2.5
Merrimack	171	24.8	118	39.8	53	12.2	28	3.4	17	-	11	-
Rockingham	280	21.8	218	38.3	62	8.9	45	3.2	33	5.8	12	-
Strafford	121	21.5	80	32.7	41	12.9	31	5.1	21	8.6	10	-
Sullivan	65	24.4	54	45.4	11	-	13	-	11	-	2	-
<b>State Total</b>	<b>1,415</b>	<b>22.0</b>	<b>1,039</b>	<b>37.1</b>	<b>376</b>	<b>10.1</b>	<b>293</b>	<b>4.0</b>	<b>192</b>	<b>6.6</b>	<b>101</b>	<b>2.1</b>

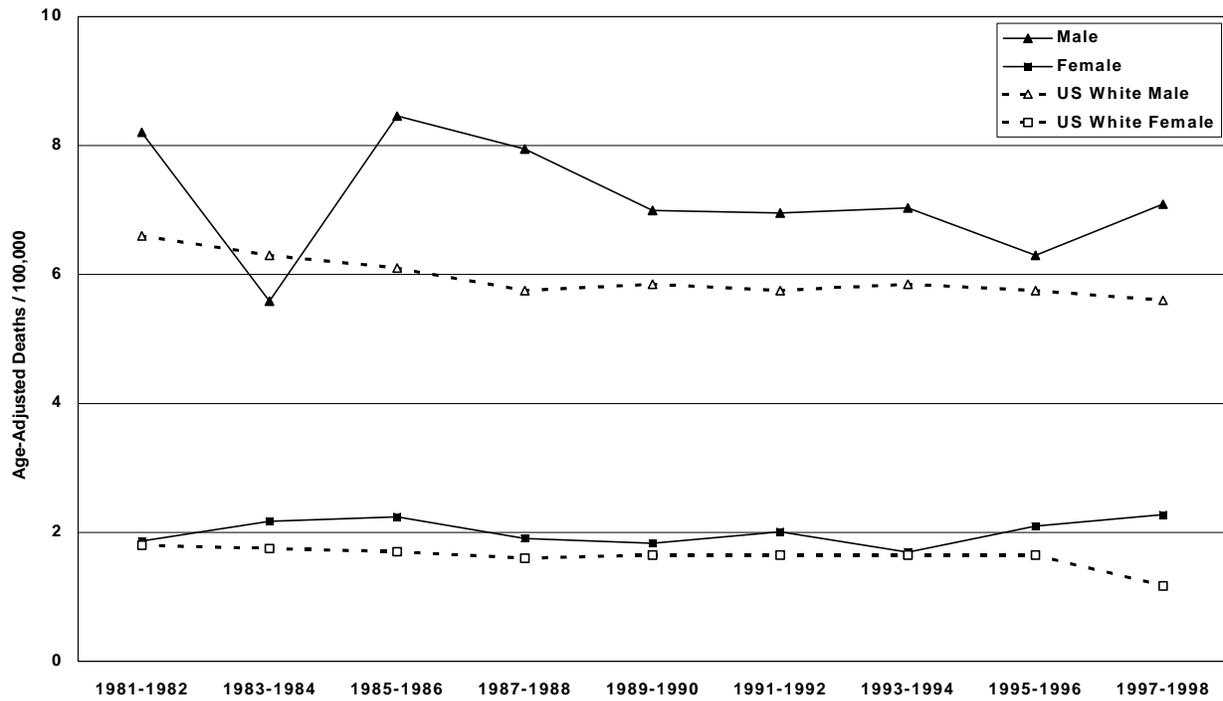
Note: Rates are per 100,000 population and adjusted to the 1970 US standard population.  
 Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).  
 Rates in **bold italic** type are significantly different from the state rate at the 95% confidence interval.

### 13. Bladder: Age-Adjusted Incidence Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
 ■ Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties and the rates of each sex within each county. If the bars overlap at any point, the rates are not statistically different. The above chart shows that while the rates vary among the counties, there are no statistically meaningful differences.

14. Bladder: Age-Adjusted Mortality Rate Trend by Sex ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population.  
 Neither the male nor female mortality rates are significantly different at the 95% confidence interval between the start and end of the period shown.

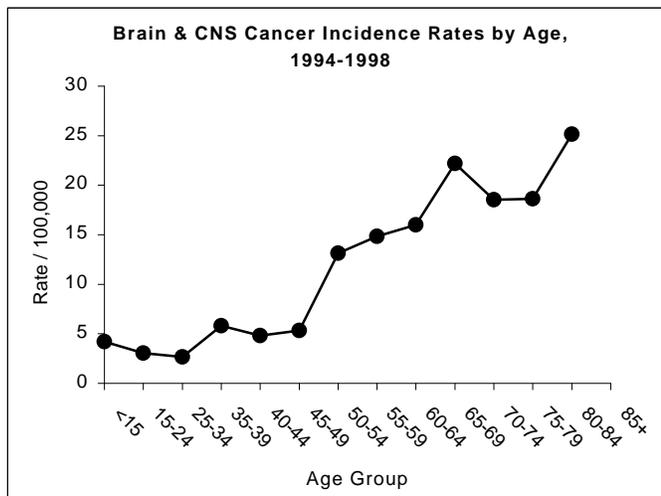
# BRAIN AND OTHER CENTRAL NERVOUS SYSTEM

## SUMMARY

These cancers include tumors of the brain and spinal cord. Brain cancer is the second most common cause of cancer in children.

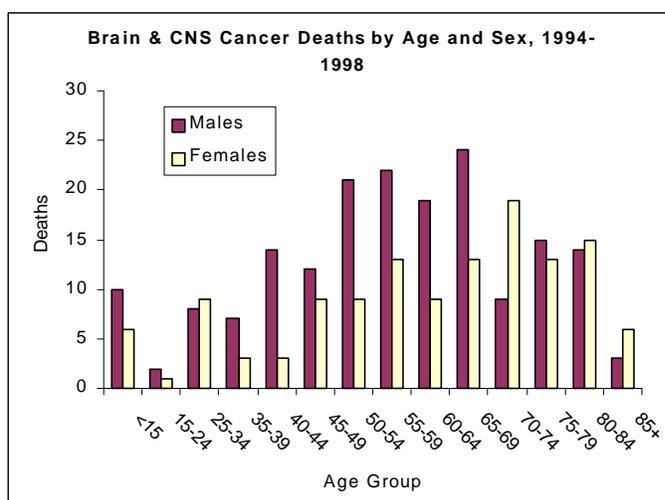
**Age Most Often Affected:** All ages

**Survival Information:** Brain and CNS tumors are not staged like other types of cancer and survival rates depend on type of tumor. Survival time for patients with low-grade astrocytomas or oligodendrogliomas is approximately 6 to 8 years. Survival for patients with anaplastic astrocytomas is approximately 3 years. Survival for patients with glioblastomas is approximately 12 to 18 months.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	81	6.4	7.1	64	5.1	4.5
Male	36	8.0	8.1	38	<b>6.4</b>	5.4
Female	45	5.1	<b>6.1</b>	26	3.8	3.7

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Working in oil refining, rubber manufacturing, and drug manufacturing
- Possible hereditary component
- Possible exposure to viruses

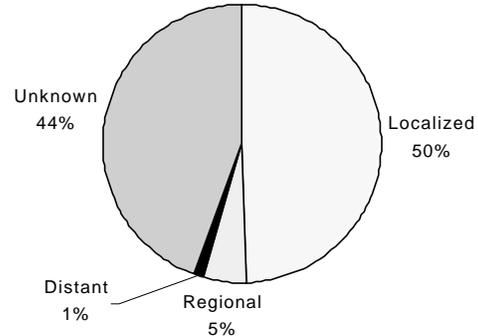
## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

15. Brain and Other CNS: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	3	2	1	4	3	1
Carroll	3	1	2	7	4	3
Cheshire	3	2	1	5	2	3
Coos	1	0	1	2	0	2
Grafton	5	2	3	1	0	1
Hillsborough	28	13	15	13	8	5
Merrimack	8	5	3	8	7	1
Rockingham	15	7	8	16	12	4
Strafford	11	2	9	5	2	3
Sullivan	4	2	2	3	0	3
<b>State Total</b>	<b>81</b>	<b>36</b>	<b>45</b>	<b>64</b>	<b>38</b>	<b>26</b>

16. Brain and Other CNS: Stage at Diagnosis ■ 1998



17. Brain and Other CNS: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	52	4.2	21	3.3	31	5.1	16	-	10	-	6	-
15-24	22	3.1	11	-	11	-	3	-	2	-	1	-
25-34	25	2.7	18	-	7	-	17	-	8	-	9	-
35-39	33	5.8	19	-	14	-	10	-	7	-	3	-
40-44	24	4.8	14	-	10	-	17	-	14	-	3	-
45-49	22	5.3	12	-	10	-	21	5.1	12	-	9	-
50-54	41	13.1	27	17.3	14	-	30	9.6	21	13.4	9	-
55-59	34	14.8	23	20.2	11	-	35	15.3	22	19.3	13	-
60-64	31	16.0	21	22.5	10	-	28	14.5	19	-	9	-
65-69	45	22.2	28	29.5	17	-	39	19.2	26	27.4	13	-
70-74	33	18.5	10	-	23	23.1	29	16.3	9	-	20	20.1
75-79	26	18.6	13	-	13	-	28	20.0	15	-	13	-
80-84	24	25.1	11	-	13	-	30	31.4	15	-	15	-
85+	4	-	1	-	3	-	9	-	3	-	6	-
<b>Age-Adjusted</b>	<b>416</b>	<b>7.0</b>	<b>229</b>	<b>8.1</b>	<b>187</b>	<b>6.1</b>	<b>312</b>	<b>5.1</b>	<b>183</b>	<b>6.4</b>	<b>129</b>	<b>3.8</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

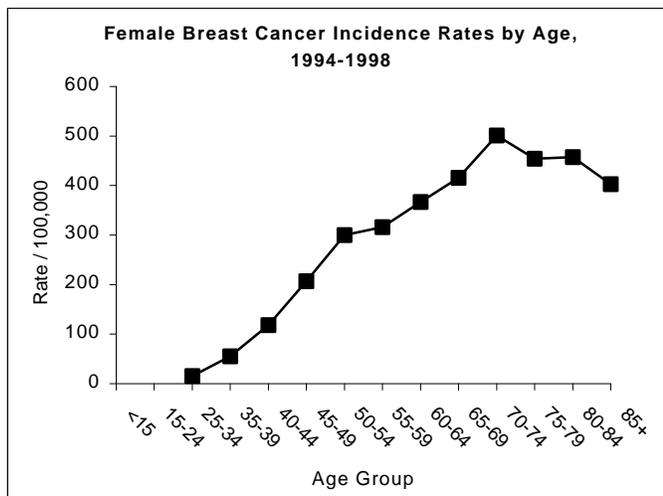
# BREAST (FEMALE)

## SUMMARY

Breast cancer is the most common type of cancer among women in New Hampshire and the second leading cause of cancer death in women. Early detection of breast cancer is the best way to reduce mortality from this disease.

**Age Most Often Affected:** 40+

**Survival:** The 5-year relative survival rate for localized breast cancer has increased from 72% in the 1940s to 96% today. If the cancer has spread regionally however, the survival rate is 77%, and for women with distant metastases, the rate is 21%. Seventy-one percent of women diagnosed with breast cancer survive 10 years, and 57% survive 15 years.

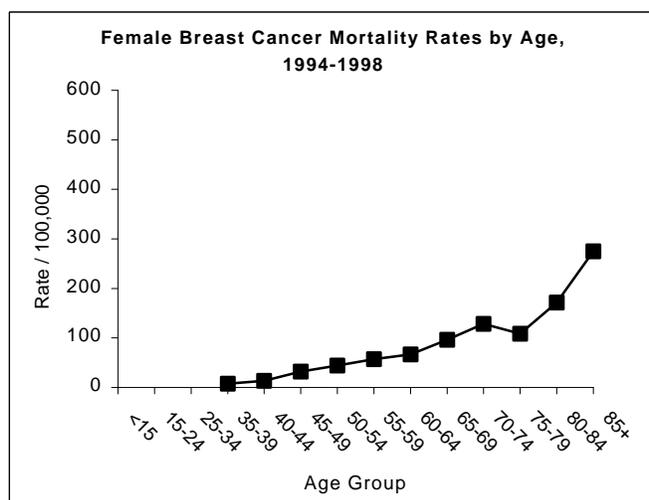


	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Female	850	116.4	115.5	183	24.4	23.9

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).

## KNOWN RISK FACTORS

- Family history of breast cancer
- Early menarche and/or late menopause
- Never pregnant or having first live birth at a late age



## SCREENING AND EARLY DETECTION

- Monthly self-examinations
- Regular clinical breast exams
- Mammograms as appropriate
- For women with a strong family history, some physicians and researchers recommend screening for changes in BRCA1 or BRCA2 gene



19.6% of NH women age 50+ had not had a clinical breast exam and mammogram in the past 2 years.

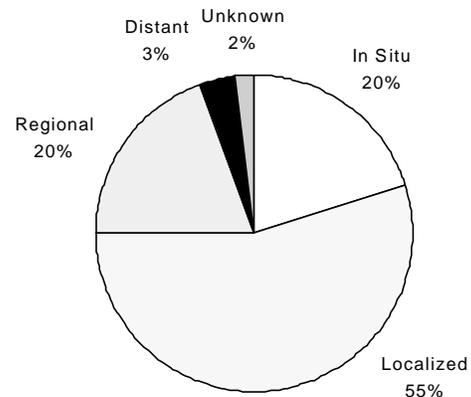


Reduce breast cancer deaths 10 percent by 2010.

### 18. Breast (Female): New Cases and Deaths by County ■ 1998

County	New Cases	Deaths
Belknap	61	11
Carroll	28	4
Cheshire	49	13
Coos	27	6
Grafton	63	18
Hillsborough	255	50
Merrimack	91	27
Rockingham	188	30
Strafford	65	20
Sullivan	23	4
<b>State Total</b>	<b>850</b>	<b>183</b>

### 19. Breast (Female): Stage at Diagnosis ■ NH 1998



### 20. Breast (Female): Age Specific and Age-Adjusted Incidence and Mortality Rates ■ 1994-1998

Age Group	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
<15	0	-	0	-
15-24	1	-	0	-
25-34	72	15.2	7	-
35-39	156	55.0	21	7.4
40-44	291	117.9	33	13.4
45-49	421	206.8	65	31.9
50-54	468	300.2	70	44.9
55-59	364	316.2	66	57.3
60-64	368	367.0	70	69.8
65-69	449	416.0	106	98.2
70-74	498	501.0	129	129.8
75-79	372	454.2	90	109.9
80-84	277	457.3	105	173.4
85+	242	403.1	166	276.5
<b>Age-Adjusted</b>	<b>3,979</b>	<b>116.1</b>	<b>928</b>	<b>24.4</b>

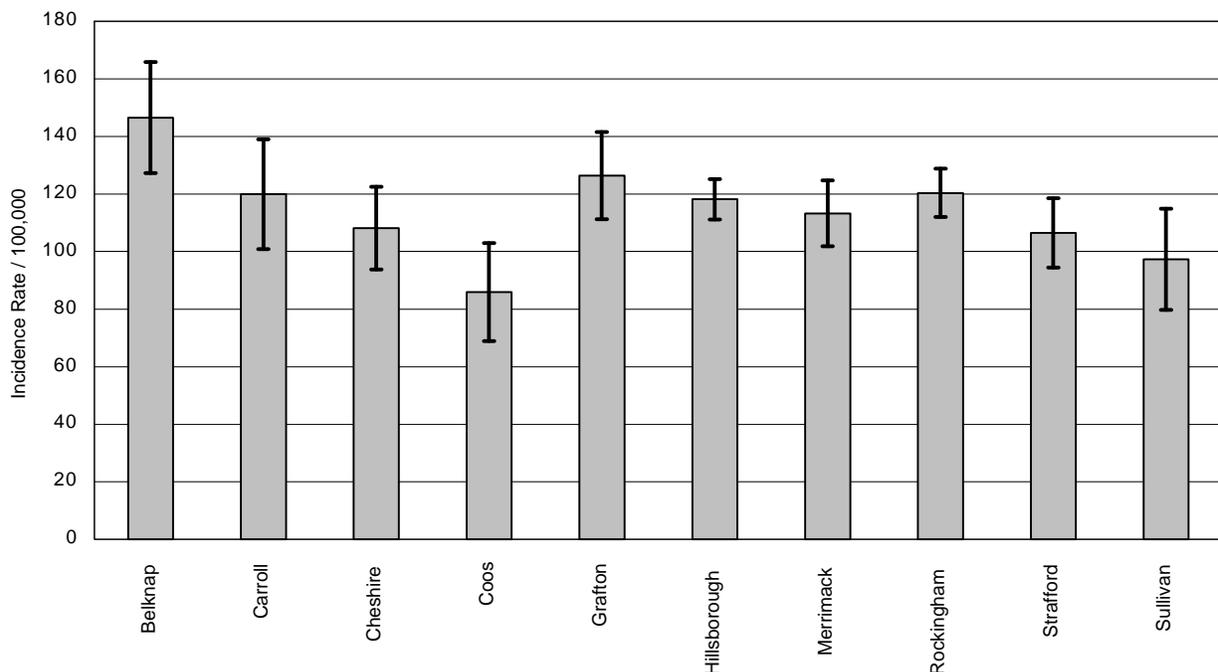
Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

## 21. Breast (Female): Age-Adjusted Incidence and Mortality Rates by Sex and County ■ 1994-1998

County	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
Belknap	247	<b>146.6</b>	43	20.7
Carroll	168	119.9	34	20.6
Cheshire	238	108.2	62	23.5
Coos	111	<b>85.9</b>	32	21.0
Grafton	293	126.4	57	21.9
Hillsborough	1,182	118.2	274	25.1
Merrimack	428	113.3	109	26.8
Rockingham	856	120.4	187	25.4
Strafford	327	106.5	82	23.0
Sullivan	129	97.3	48	31.0
<b>State Total</b>	<b>3,979</b>	<b>116.1</b>	<b>928</b>	<b>24.4</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
Rates in **bold italic** type are significantly different from the state rate at the 95% confidence interval.

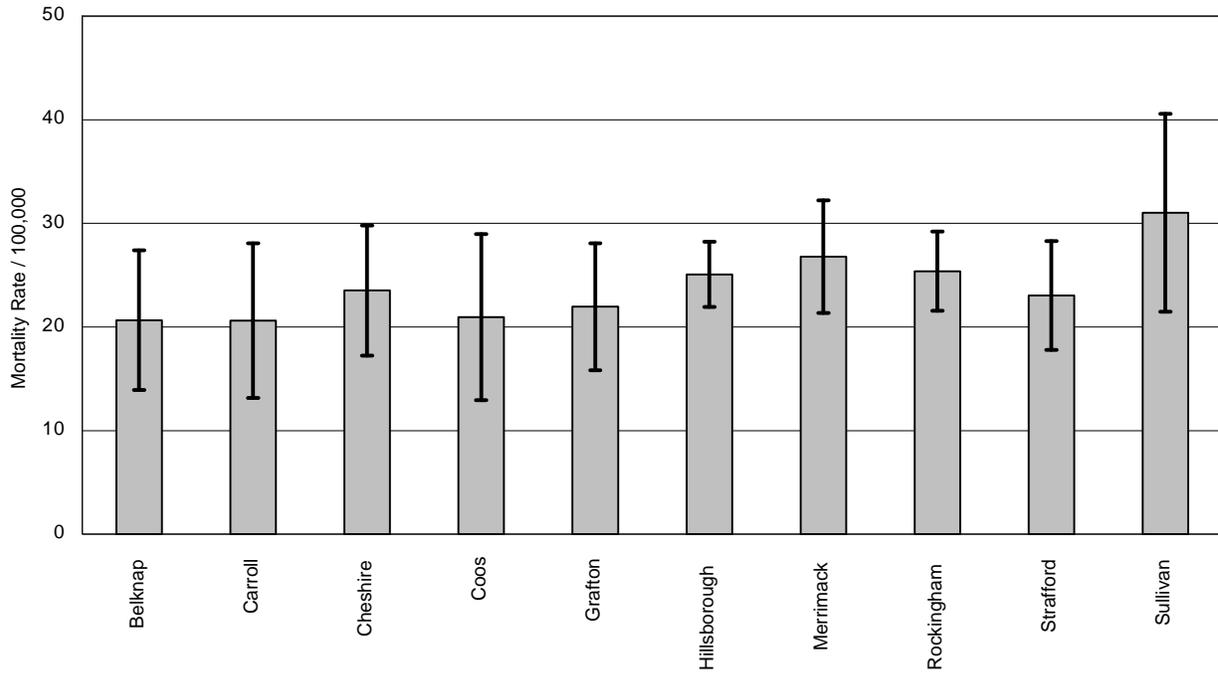
## 22. Breast (Female): Age-Adjusted Incidence Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.

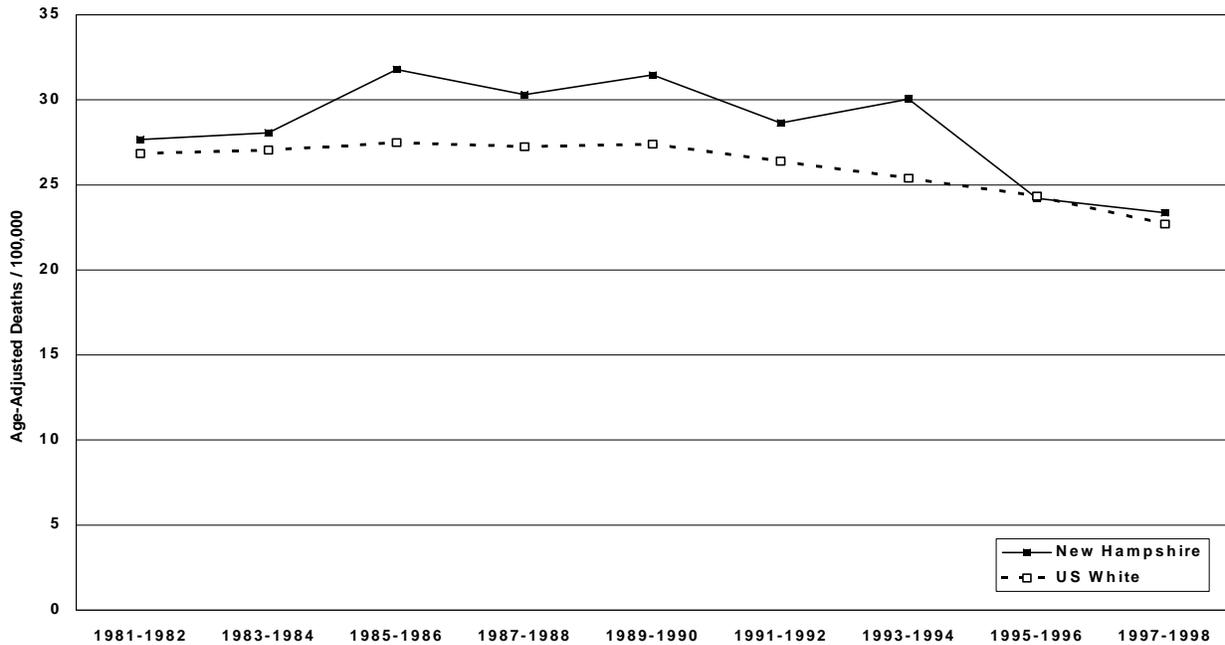
■ Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties. If the bars overlap at any point, the rates are not statistically different. The above chart shows that there are statistically meaningful differences between Coos (lower than some) and Belknap (higher than some) and some of the other counties.

23. Breast (Female): Age-Adjusted Mortality Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.

24. Breast (Female): Age-Adjusted Mortality Rate Trend ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population. The mortality rates are significantly lower at the 95% confidence interval between the start and end of the period.

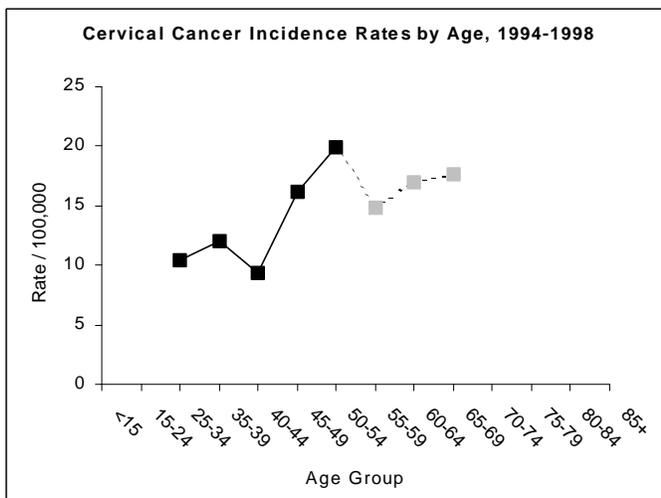
# CERVIX UTERI

## SUMMARY

Cells on the surface of the cervix sometimes appear abnormal but are not cancerous. These abnormal changes in cells on the cervix can be the first step in a series of slow changes that can lead to cervical cancer years later. Most precancerous conditions of the cervix can be detected through regularly scheduled Pap tests. If detected, these precancerous conditions can be treated before cancer develops. Also, any invasive cancer that does occur would likely be found at an early, curable stage.

**Age Most Often Affected:** 20+

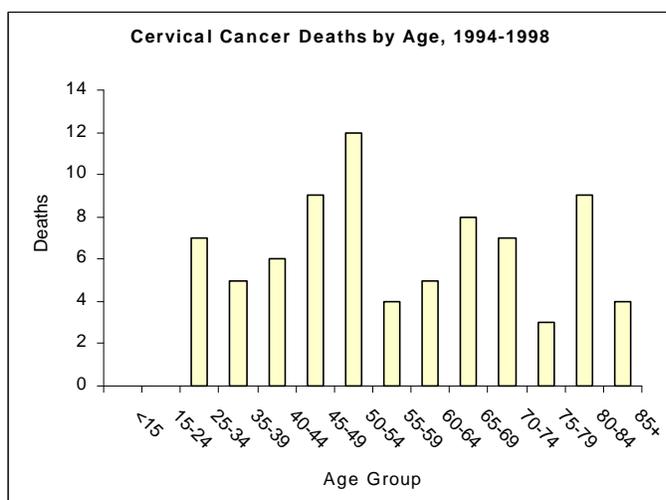
**Survival Information:** Eighty-nine percent of invasive cervical cancer patients survive one year after diagnosis, and 70% survive five years. When detected at an early stage, invasive cervical cancer is one of the most successfully treatable cancers with a 5-year relative survival rate of 91% for localized cancers.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Female	56	7.4	7.1	20	2.3	2.4

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Genital human papillomavirus (HPV) infection (especially types 16, 18, 31, 45)
- Sexual intercourse before age 18
- Multiple sexual partners
- Smoking

## SCREENING AND EARLY DETECTION

- Pap tests

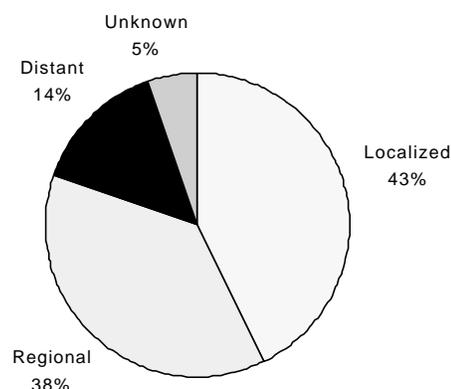


11.6% of adult NH women have not had a Pap test in the last 3 years.

### 25. Cervix Uteri: New Cases and Deaths by County ■ 1998

County	New Cases	Deaths
Belknap	4	4
Carroll	1	2
Cheshire	6	1
Coos	2	1
Grafton	5	1
Hillsborough	11	2
Merrimack	5	2
Rockingham	11	4
Strafford	9	2
Sullivan	2	1
<b>State Total</b>	<b>56</b>	<b>20</b>

### 26. Cervix Uteri: Stage at Diagnosis ■ 1998



### 27. Cervix Uteri: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
<15	0	-	0	-
15-24	4	-	0	-
25-34	49	10.4	7	-
35-39	34	12.0	5	-
40-44	23	9.3	6	-
45-49	33	16.2	9	-
50-54	31	19.9	12	-
55-59	17	-	4	-
60-64	17	-	6	-
65-69	19	-	8	-
70-74	6	-	7	-
75-79	7	-	3	-
80-84	13	-	9	-
85+	8	-	4	-
<b>Age-Adjusted</b>	<b>261</b>	<b>7.4</b>	<b>80</b>	<b>2.3</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

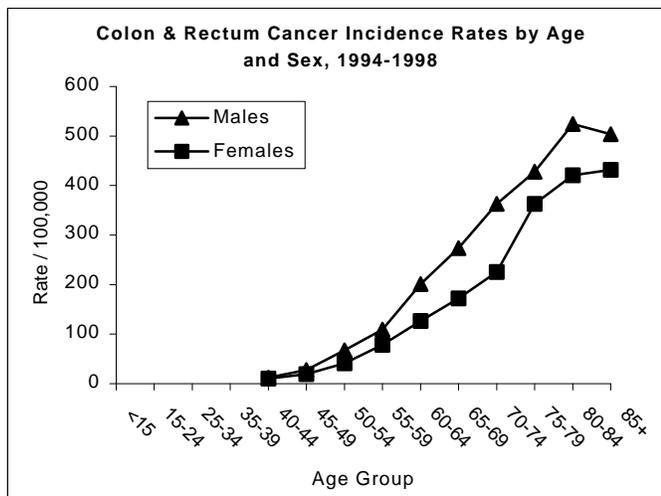
# COLON AND RECTUM

## SUMMARY

Colorectal cancer the fourth leading cause of cancer and the second leading cause of cancer death in New Hampshire. Over 95% of colorectal cancers are adenocarcinomas which are cancers that line the inside side of the colon and rectum. Early detection of colorectal cancer and improvement in diet are effective means to reduce mortality from this disease.

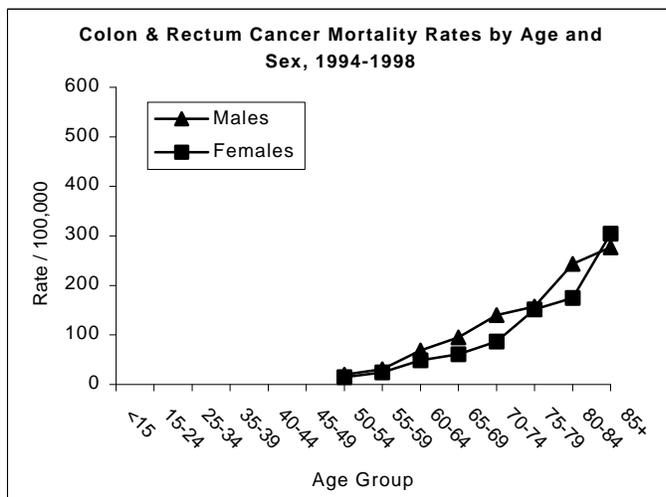
**Age Most Often Affected:** Over 65

**Survival Information:** When colorectal cancers are detected in an early, localized stage, the 5-year relative survival rate is 90%, however only 37% of colorectal cancers are discovered at that stage. If the cancer has spread regionally, the rate drops to 65%. The 5-year survival rate for persons with distant metastases is 8%.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	615	<b>48.3</b>	42.8	258	<b>18.7</b>	16.3
Male	321	<b>57.6</b>	51.3	130	21.4	20.0
Female	294	<b>40.5</b>	35.9	128	<b>16.4</b>	13.6

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



## KNOWN RISK FACTORS

- Family history of colorectal cancer
- Intestinal adenomatous polyps
- Inflammatory bowel disease
- Diet high in fat and low in fresh fruits and vegetables

## SCREENING AND EARLY DETECTION

- Colonoscopy / flexible sigmoidoscopy
- Fecal occult blood test
- Double-contrast barium enema



Reduce colorectal cancer deaths 10 percent by 2010.

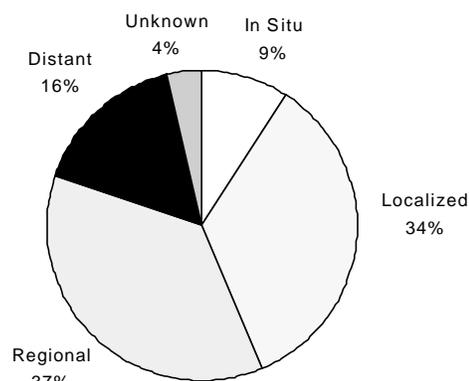


53.2% of NH adults age 50+ have never had a sigmoidoscopic or proctoscopic exam.

## 28. Colorectal: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	24	14	10	15	9	6
Carroll	30	16	14	12	7	5
Cheshire	29	15	14	17	12	5
Coos	26	12	14	13	6	7
Grafton	47	25	22	18	7	11
Hillsborough	171	84	87	61	29	32
Merrimack	79	41	38	34	15	19
Rockingham	136	75	61	49	27	22
Strafford	40	25	15	21	11	10
Sullivan	33	14	19	18	7	11
<b>State Total</b>	<b>615</b>	<b>321</b>	<b>294</b>	<b>258</b>	<b>130</b>	<b>128</b>

## 29. Colorectal: Stage at Diagnosis ■ 1998



## 30. Colorectal: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	5	-	4	-	1	-	3	-	3	-	0	-
25-34	25	2.7	16	-	9	-	5	-	3	-	2	-
35-39	22	3.9	10	-	12	-	5	-	3	-	2	-
40-44	57	11.5	31	12.4	26	10.5	14	-	10	-	4	-
45-49	97	23.5	58	27.8	39	19.2	36	8.7	18	-	18	-
50-54	169	54.1	105	67.2	64	41.1	54	17.3	31	19.8	23	14.8
55-59	214	93.5	124	108.9	90	78.2	63	27.5	35	30.7	28	24.3
60-64	315	162.7	188	201.3	127	126.6	113	58.3	63	67.5	50	49.9
65-69	446	219.8	260	273.9	186	172.3	158	77.9	91	95.9	67	62.1
70-74	509	286.1	285	362.9	224	225.3	200	112.4	114	145.2	86	86.5
75-79	544	389.5	247	427.5	297	362.7	214	153.2	91	157.5	123	150.2
80-84	438	458.8	183	524.4	255	421.0	193	202.2	85	243.6	108	178.3
85+	370	450.9	111	503.9	259	431.4	244	297.3	61	276.9	183	304.8
<b>Age-Adjusted</b>	<b>3,211</b>	<b>48.3</b>	<b>1,622</b>	<b>57.6</b>	<b>1,589</b>	<b>40.5</b>	<b>1,302</b>	<b>18.7</b>	<b>608</b>	<b>21.4</b>	<b>694</b>	<b>16.4</b>

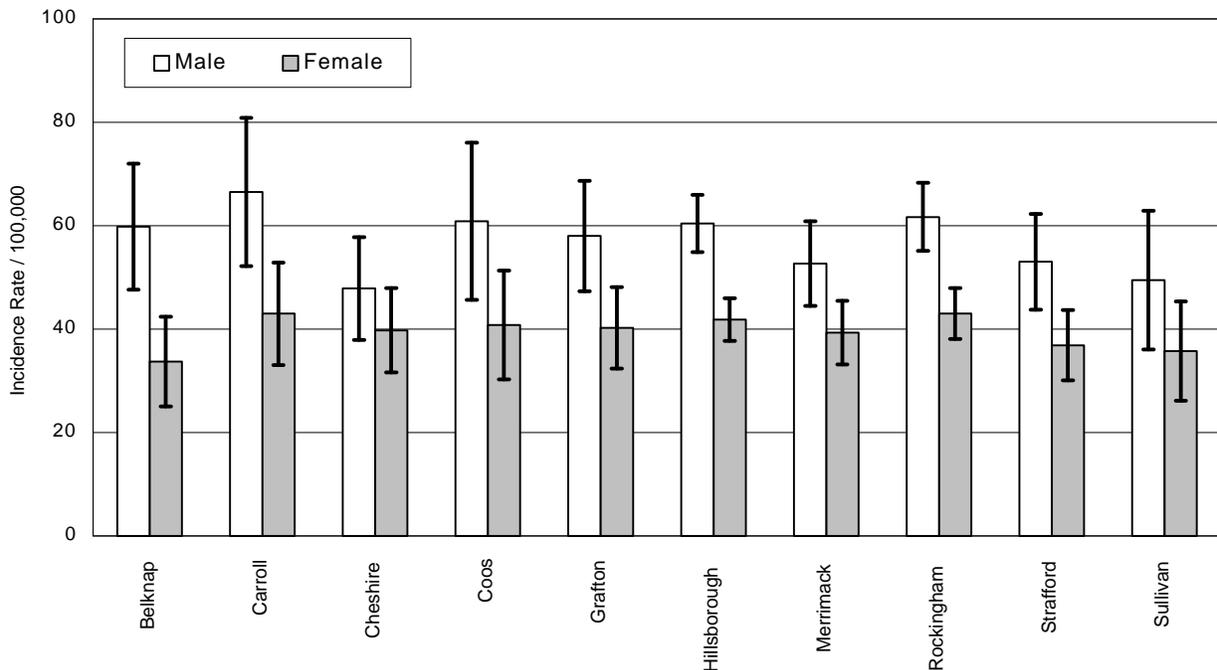
Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

31. Colorectal: Age-Adjusted Incidence and Mortality Rates by Sex and County ■ 1994-1998

County	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	167	45.4	97	59.8	70	33.8	67	17.1	39	24.0	28	12.4
Carroll	169	55.5	87	66.6	82	43.0	74	23.6	28	20.6	46	25.5
Cheshire	198	43.5	92	47.9	106	39.8	79	16.7	44	22.4	35	12.6
Coos	135	50.8	65	60.9	70	40.8	54	20.5	26	25.2	28	15.4
Grafton	233	48.9	118	58.0	115	40.2	108	22.6	53	27.1	55	17.8
Hillsborough	906	49.4	464	60.4	442	41.8	369	19.1	181	23.5	188	15.9
Merrimack	360	45.9	164	52.7	196	39.3	150	18.2	62	19.4	88	16.9
Rockingham	672	51.7	351	61.7	321	43.0	227	16.7	100	<b>17.4</b>	127	15.8
Strafford	254	43.1	128	53.0	126	36.9	114	18.2	50	20.8	64	17.6
Sullivan	117	42.7	56	49.5	61	35.8	60	20.7	25	22.5	35	18.0
<b>State Total</b>	<b>3,211</b>	<b>48.3</b>	<b>1,622</b>	<b>57.6</b>	<b>1,589</b>	<b>40.5</b>	<b>1,302</b>	<b>18.7</b>	<b>608</b>	<b>21.4</b>	<b>694</b>	<b>16.4</b>

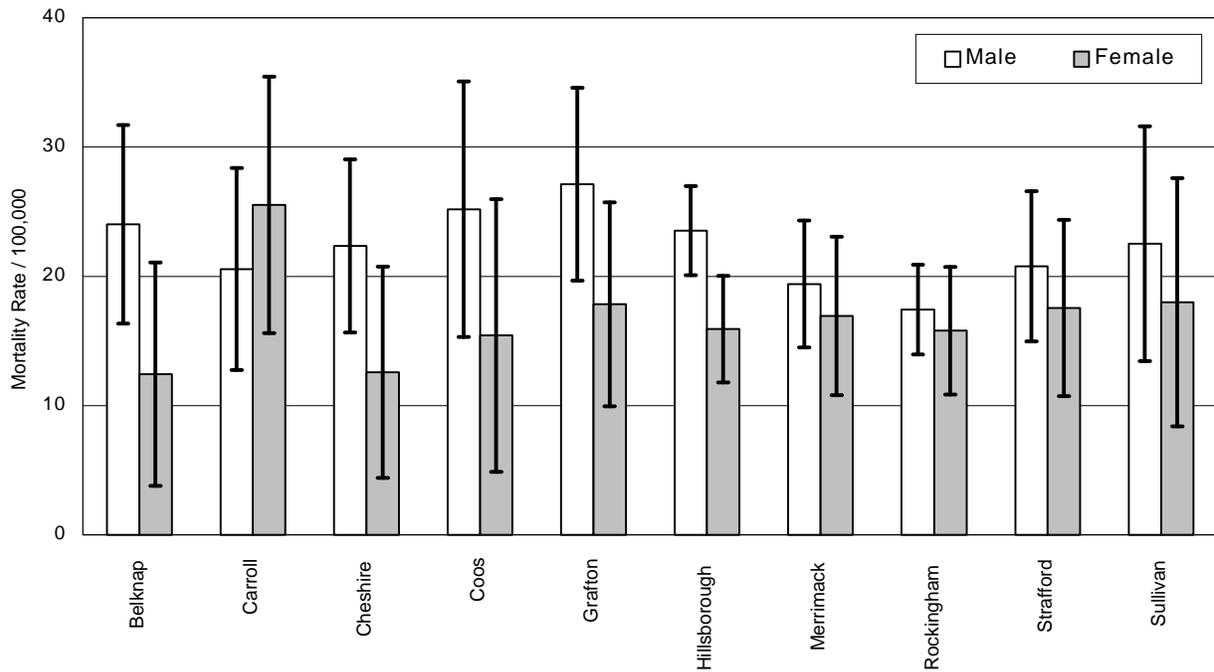
Note: Rates are per 100,000 population and adjusted to the 1970 US standard population.  
 Rates in **bold italic** type are significantly different from the state rate at the 95% confidence interval.

32. Colorectal: Age-Adjusted Incidence Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



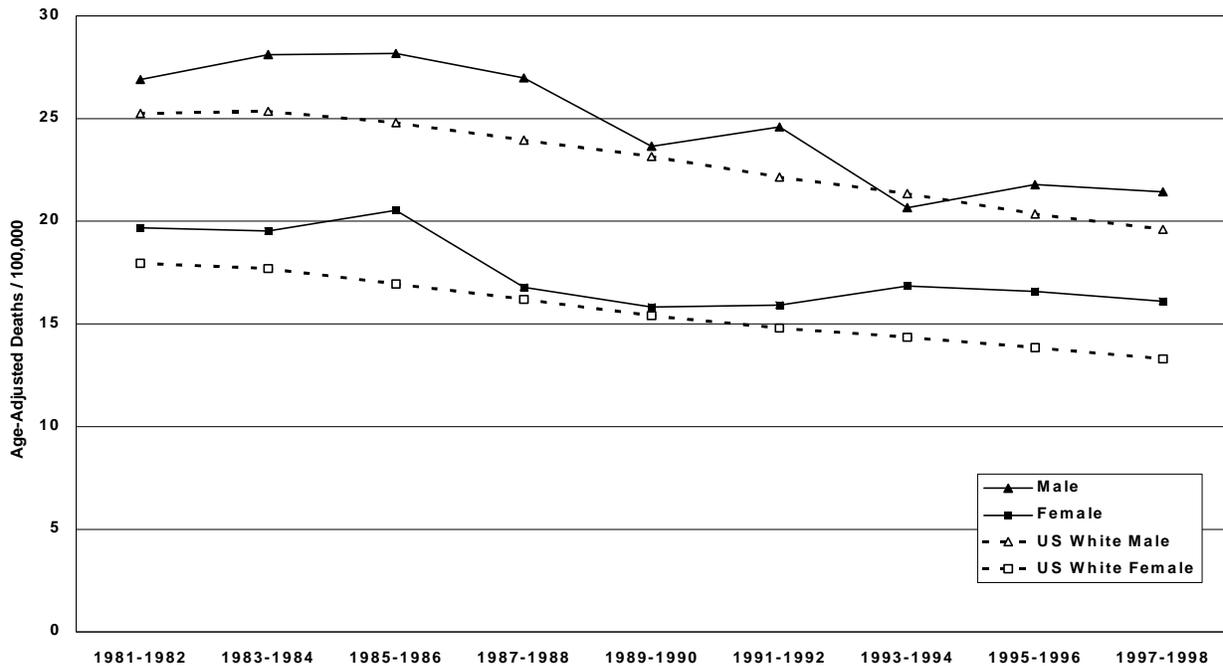
Note: Rates are age-adjusted to the 1970 US standard population.  
 ■ Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties and the rates of each sex within each county. If the bars overlap at any point, the rates are not statistically different. The above chart shows that while the rates vary among the counties, there are no statistically meaningful differences.

33. Colorectal: Age-Adjusted Mortality Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.

34. Colorectal: Age-Adjusted Mortality Rate Trends by Sex ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population. The mortality rates are significantly lower at the 95% confidence interval between the start and end of the period.

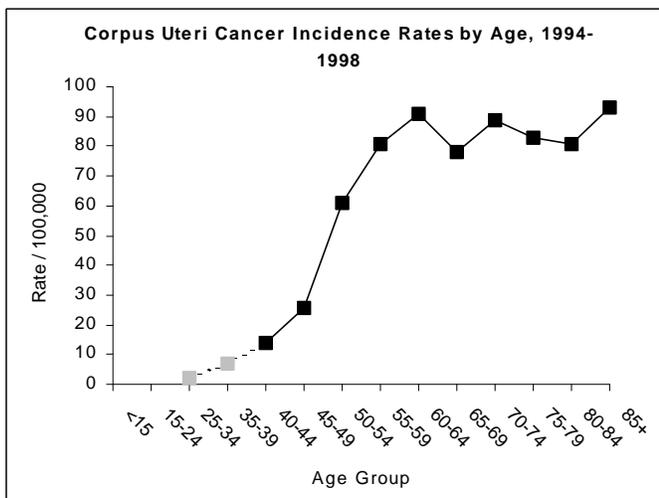
# CORPUS UTERI

## SUMMARY

Cancer of the uterus is the most common cancer of the female reproductive tract. It is also called endometrial cancer because the site of the cancer is usually the endometrium or lining of the uterus. Nationally, incidence rates are higher among white women than black women, but the relationship is reversed for mortality—the mortality rate for black women is nearly twice as high as for white women.

**Age Most Often Affected:** 50+

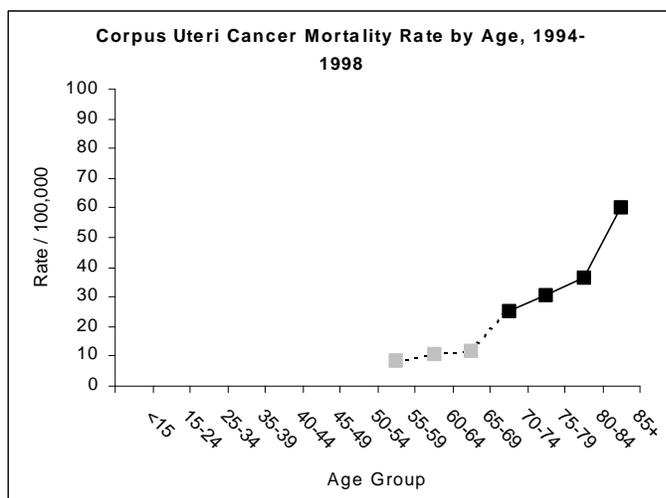
**Survival Information:** The 1-year relative survival rate for endometrial cancer is 93%. The 5-year relative survival rate is 95% if the cancer is discovered at an early stage and 64% if diagnosed at a regional stage.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Female	144	22.5	22.2	36	3.7	3.1

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Exposure to estrogen, including estrogen replacement therapy, early menarche, late menopause
- Diabetes and hypertension
- Gallbladder disease
- Obesity
- Colorectal or breast cancer

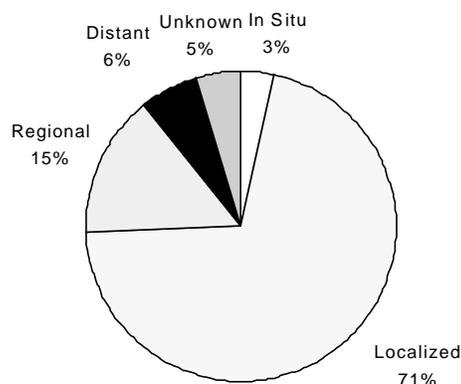
## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

### 35. Corpus Uteri: New Cases and Deaths by County ■ 1998

County	New Cases	Deaths
Belknap	6	2
Carroll	4	4
Cheshire	10	3
Coos	4	0
Grafton	12	1
Hillsborough	45	7
Merrimack	15	8
Rockingham	29	8
Strafford	11	2
Sullivan	8	1
<b>State Total</b>	<b>144</b>	<b>36</b>

### 36. Corpus Uteri: Stage at Diagnosis ■ 1998



### 37. Corpus Uteri: Age Specific and Age-Adjusted Incidence and Mortality Rates ■ 1994-1998

Age Group	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
<15	0	-	0	-
15-24	0	-	0	-
25-34	11	-	1	-
35-39	19	-	0	-
40-44	34	13.8	3	-
45-49	52	25.5	5	-
50-54	95	60.9	2	-
55-59	93	80.8	10	-
60-64	91	90.7	11	-
65-69	84	77.8	13	-
70-74	88	88.5	25	25.2
75-79	68	83.0	25	30.5
80-84	49	80.9	22	36.3
85+	56	93.3	36	60.0
<b>Age-Adjusted</b>	<b>740</b>	<b>22.3</b>	<b>153</b>	<b>3.7</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# ESOPHAGUS

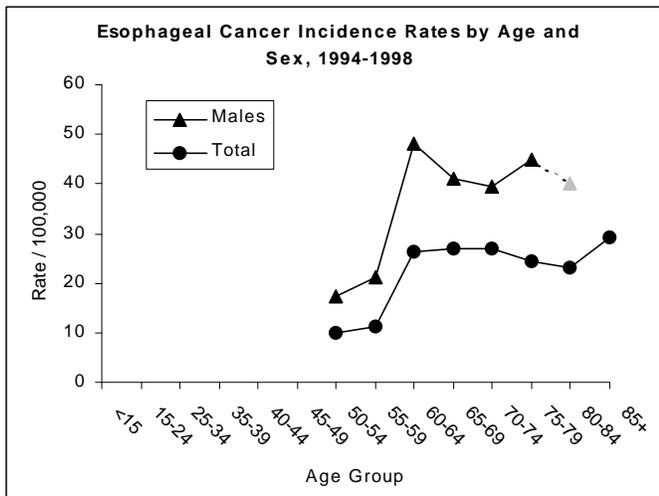
## SUMMARY

Esophageal cancer in New Hampshire and the U.S. is relatively rare; however, it is the fifth leading cause of cancer death worldwide. Esophageal cancer is almost three times more common among men than among women and three times more common among African Americans than among whites.

**Age Most Affected:** 60+

**Gender Most Often Affected:** Male

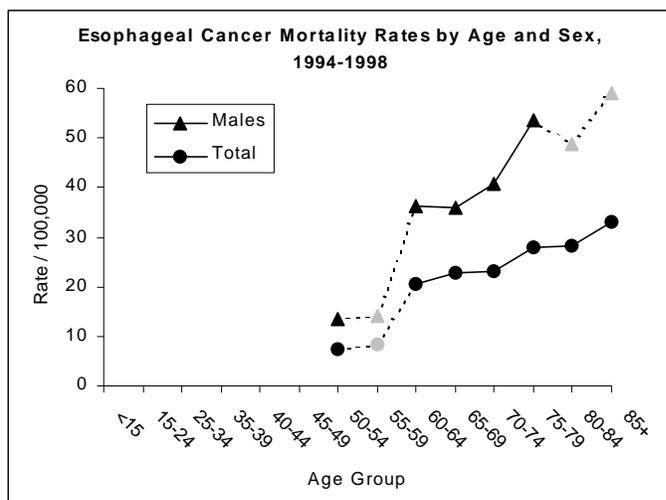
**Survival Information:** Survivability for esophageal cancer depends greatly on stage at diagnosis; earlier detection leads to much higher survival rates. Five-year survival rates for cancers detected at early stage are 75%, 50% for localized ones, 20% for regional, and less than 1% for distant.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	66	<b>5.1</b>	3.6	62	<b>4.5</b>	3.4
Male	46	<b>8.5</b>	6.2	47	<b>7.8</b>	5.9
Female	20	<b>2.1</b>	1.6	15	1.8	1.3

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Use of tobacco products
- Chronic and/or heavy alcohol use
- Persistent acid reflux (heartburn)

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.



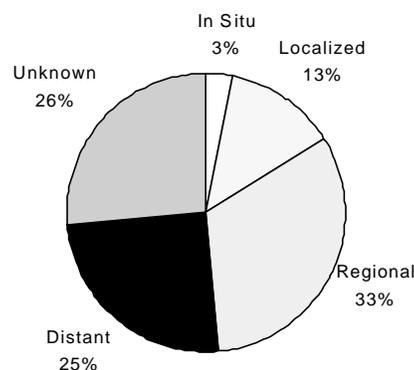
22% of NH adults are current smokers.

5% of NH adults are chronic drinkers of alcohol (60+ drinks/month).

38. Esophagus: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	3	3	0	2	2	0
Carroll	2	1	1	3	2	1
Cheshire	10	7	3	4	4	0
Coos	1	0	1	2	2	0
Grafton	5	2	3	6	2	4
Hillsborough	20	14	6	15	11	4
Merrimack	4	2	2	7	6	1
Rockingham	14	11	3	12	10	2
Strafford	6	6	0	9	7	2
Sullivan	1	0	1	2	1	1
<b>State Total</b>	<b>66</b>	<b>46</b>	<b>20</b>	<b>62</b>	<b>47</b>	<b>15</b>

39. Esophagus: Stage at Diagnosis ■ 1998



40. Esophagus: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	1	-	1	-	0	-	2	-	2	-	0	-
35-39	2	-	1	-	1	-	1	-	1	-	0	-
40-44	8	-	6	-	2	-	6	-	4	-	2	-
45-49	7	-	5	-	2	-	5	-	4	-	1	-
50-54	31	9.9	27	17.3	4	-	23	7.4	21	13.4	2	-
55-59	26	11.4	24	21.1	2	-	19	-	16	-	3	-
60-64	51	26.3	45	48.2	6	-	42	21.7	35	37.5	7	-
65-69	55	27.1	39	41.1	16	-	47	23.2	35	36.9	12	-
70-74	48	27.0	31	39.5	17	-	42	23.6	33	42.0	9	-
75-79	34	24.3	26	45.0	8	-	41	29.4	33	57.1	8	-
80-84	22	23.0	14	-	8	-	28	29.3	17	-	11	-
85+	24	29.2	9	-	15	-	29	35.3	13	-	16	-
<b>Age-Adjusted</b>	<b>309</b>	<b>5.0</b>	<b>228</b>	<b>8.4</b>	<b>81</b>	<b>2.1</b>	<b>285</b>	<b>4.5</b>	<b>214</b>	<b>7.8</b>	<b>71</b>	<b>1.8</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# HODGKIN'S DISEASE

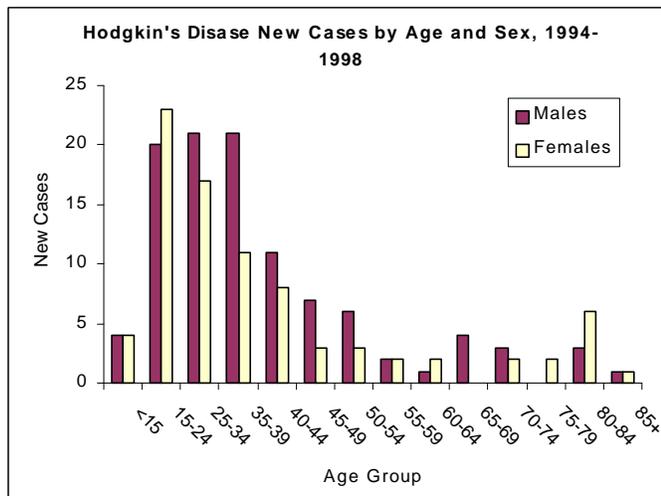
## SUMMARY

Hodgkin's Disease is a type of cancer of the lymphatic system. This system is part of the body's immune system and helps the body fight disease and infection. It includes a network of thin lymphatic vessels that branch, like blood vessels, into tissues throughout the body. Hodgkin's disease is an uncommon lymphoma, and accounts for less than 1 percent of all cases of cancer.

**Ages Most Often Affected:** Young adulthood (15-34) and 60+

**Gender Most Often Affected:** Male

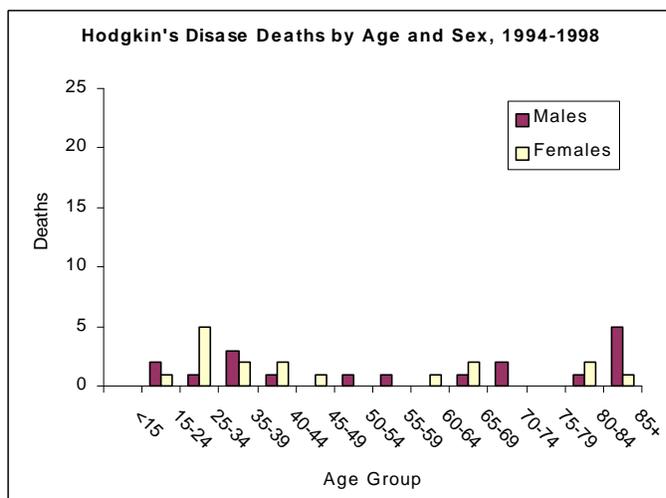
**Survival Information:** The 1-year relative survival rate for Hodgkin's Disease is 93%, the 5-year rate is 82%, and the 10-year survival rate is 72%.



Note: Actual number of new cases are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	40	3.0	2.9	6	0.5	0.5
Male	24	3.3	3.3	5	-	0.5
Female	16	2.7	2.5	1	-	0.4

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Family history: siblings of someone with Hodgkin's Disease have a higher than average chance of contracting this cancer.
- Exposure to Epstein-Barr virus

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

#### 41. Hodgkin's Disease: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	3	1	2	1	1	0
Carroll	1	0	1	0	0	0
Cheshire	1	0	1	0	0	0
Coos	3	2	1	0	0	0
Grafton	4	1	3	1	1	0
Hillsborough	14	10	4	2	2	0
Merrimack	3	2	1	0	0	0
Rockingham	5	4	1	0	0	0
Strafford	6	4	2	1	1	0
Sullivan	0	0	0	1	0	1
<b>State Total</b>	<b>40</b>	<b>24</b>	<b>16</b>	<b>6</b>	<b>5</b>	<b>1</b>

*Summary staging data  
for Hodgkin's Disease is  
not available*

#### 42. Hodgkin's Disease: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	8	-	4	-	4	-	0	-	0	-	0	-
15-24	43	6.0	20	5.5	23	6.4	3	-	2	-	1	-
25-34	38	4.1	21	4.6	17	-	6	-	1	-	5	-
35-39	32	5.6	21	7.4	11	-	5	-	3	-	2	-
40-44	19	-	11	-	8	-	3	-	1	-	2	-
45-49	10	-	7	-	3	-	1	-	0	-	1	-
50-54	9	-	6	-	3	-	2	-	2	-	0	-
55-59	4	-	2	-	2	-	1	-	1	-	0	-
60-64	3	-	1	-	2	-	1	-	0	-	1	-
65-69	4	-	4	-	0	-	3	-	1	-	2	-
70-74	5	-	3	-	2	-	2	-	2	-	0	-
75-79	2	-	0	-	2	-	0	-	0	-	0	-
80-84	9	-	3	-	6	-	3	-	1	-	2	-
85+	2	-	1	-	1	-	6	-	5	-	1	-
<b>Age-Adjusted</b>	<b>188</b>	<b>3.0</b>	<b>104</b>	<b>3.3</b>	<b>84</b>	<b>2.7</b>	<b>36</b>	<b>0.5</b>	<b>19</b>	<b>0.6</b>	<b>17</b>	<b>0.4</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# KIDNEY AND RENAL PELVIS

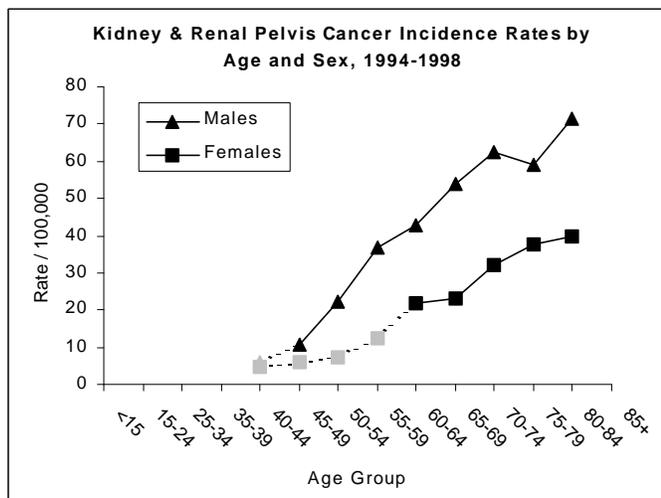
## SUMMARY

Several types of cancer can develop in the kidney; the most common form of kidney cancer in adults is renal cell cancer. Cancers of the kidney are approximately one third of all urinary tract neoplasms. The incidence of this cancer has continued to rise over the past decade and is twice as common in males as females.

**Age Most Often Affected:** 50+

**Gender Most Often Affected:** Male

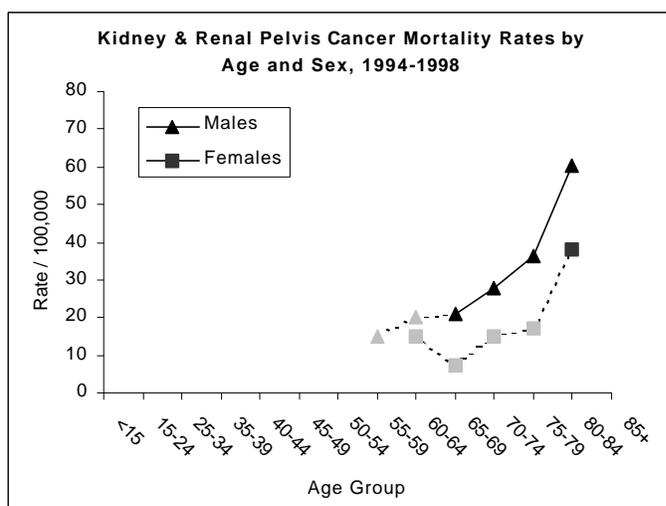
**Survival Information:** Survival is greatly dependent on the stage at which the cancer is diagnosed. For those cancers discovered at the local stage, the 5-year survival rate for is 88%, for regional it is 61%. However for those diagnosed at a distant stage the 5-year survival rate is less than 10%.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	108	8.8	9.5	63	3.8	3.6
Male	72	12.0	13.3	32	5.2	5.1
Female	36	5.9	6.4	31	2.8	2.3

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Smoking
- Obesity
- Occupational exposures to coal fumes and asbestos
- Long term dialysis
- Radiation

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

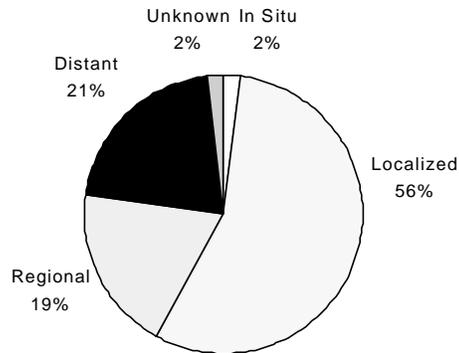


22% of NH adults are current smokers.

43. Kidney and Renal Pelvis: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	5	4	1	3	3	0
Carroll	3	2	1	3	3	0
Cheshire	9	7	2	5	3	2
Coos	1	0	1	1	1	0
Grafton	4	1	3	3	1	2
Hillsborough	37	21	16	19	11	8
Merrimack	18	15	3	9	3	6
Rockingham	18	14	4	12	5	7
Strafford	6	3	3	4	1	3
Sullivan	7	5	2	4	1	3
<b>State Total</b>	<b>108</b>	<b>72</b>	<b>36</b>	<b>63</b>	<b>32</b>	<b>31</b>

44. Kidney and Renal Pelvis: Stage at Diagnosis ■ 1998



45. Kidney and Renal Pelvis: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	10	-	6	-	4	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	11	-	5	-	6	-	1	-	0	-	1	-
35-39	13	-	9	-	4	-	3	-	2	-	1	-
40-44	27	5.4	15	-	12	-	4	-	3	-	1	-
45-49	34	8.2	22	10.5	12	-	10	-	6	-	4	-
50-54	46	14.7	35	22.4	11	-	10	-	6	-	4	-
55-59	56	24.5	42	36.9	14	-	22	9.6	17	-	5	-
60-64	62	32.0	40	42.8	22	21.9	34	17.6	19	-	15	-
65-69	76	37.5	51	53.7	25	23.2	28	13.8	20	21.1	8	-
70-74	81	45.5	49	62.4	32	32.2	38	21.4	23	29.3	15	-
75-79	65	46.5	34	58.8	31	37.9	35	25.1	21	36.3	14	-
80-84	49	51.3	25	71.6	24	39.6	45	47.1	22	63.0	23	38.0
85+	16	-	5	-	11	-	19	-	5	-	14	-
<b>Age-Adjusted</b>	<b>546</b>	<b>8.8</b>	<b>338</b>	<b>12.0</b>	<b>208</b>	<b>5.9</b>	<b>249</b>	<b>3.8</b>	<b>144</b>	<b>5.2</b>	<b>105</b>	<b>2.8</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# LARYNX

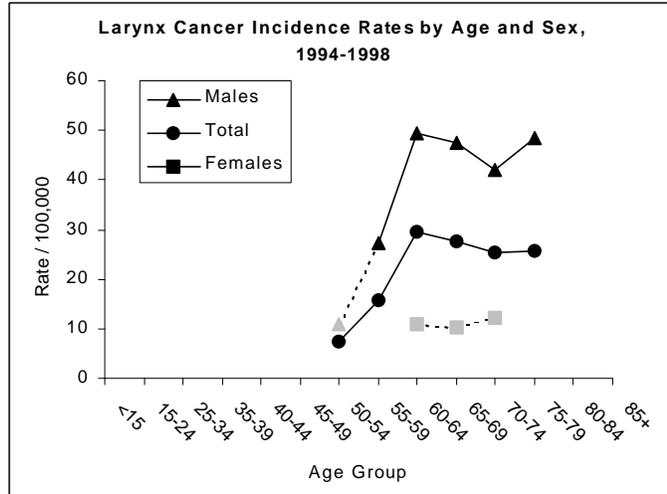
## SUMMARY

Cancer of the larynx or voice box is a fairly rare disease. The occurrence of laryngeal cancer is similar to that of other cancers of the mouth and throat.

**Age Affected:** Most common age 60 and older

**Gender Most Often Affected:** Male

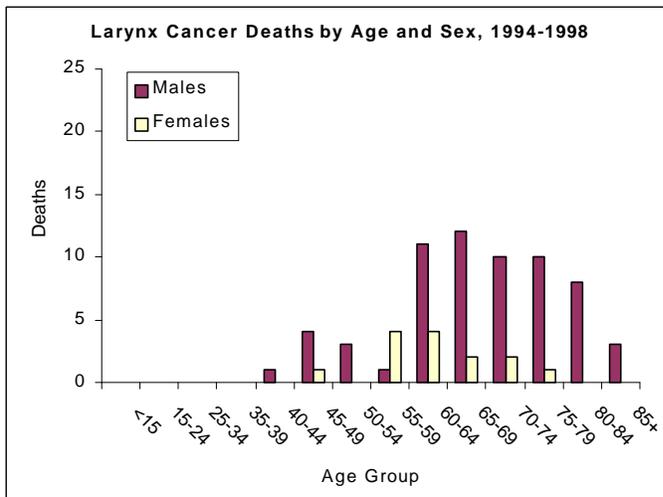
**Survival Information:** 88% of laryngeal cancer patients survive one year after diagnosis. The majority of cases are diagnosed while still localized and those have an 81% 5-year survival rate. For all stages combined, the 5-year relative survival rate is 65% and the 10-year rate is 53%.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	60	<b>5.2</b>	3.8	11	1.3	1.2
Male	51	<b>9.1</b>	6.6	10	2.2	2.1
Female	9	<b>2.0</b>	1.4	1	0.5	0.5

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Use of tobacco products
- Chronic and/or heavy alcohol use
- Exposure to asbestos, nickel, mustard gas, wood dust

## SCREENING AND EARLY DETECTION

None of the available screening tests are known to be effective.



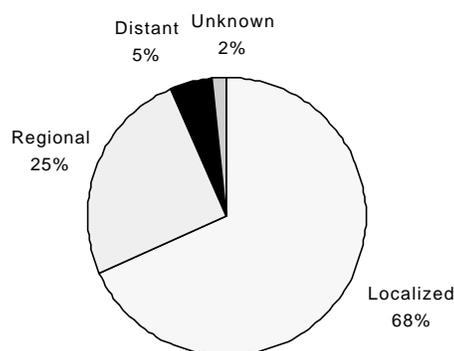
22% of NH adults are current smokers.

5% of NH adults are chronic drinkers of alcohol (60+ drinks/month).

## 46. Larynx: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	2	2	0	0	0	0
Carroll	1	0	1	0	0	0
Cheshire	4	3	1	2	2	0
Coos	3	3	0	0	0	0
Grafton	5	4	1	2	2	0
Hillsborough	12	12	0	0	0	0
Merrimack	5	5	0	0	0	0
Rockingham	18	13	5	5	5	0
Strafford	7	6	1	0	0	0
Sullivan	3	3	0	2	1	1
<b>State Total</b>	<b>60</b>	<b>51</b>	<b>9</b>	<b>11</b>	<b>10</b>	<b>1</b>

## 47. Larynx: Stage at Diagnosis ■ 1998



## 48. Larynx: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	3	-	1	-	2	-	0	-	0	-	0	-
35-39	3	-	2	-	1	-	0	-	0	-	0	-
40-44	5	-	3	-	2	-	1	-	1	-	0	-
45-49	15	-	12	-	3	-	5	-	4	-	1	-
50-54	23	7.4	17	-	6	-	3	-	3	-	0	-
55-59	36	15.7	31	27.2	5	-	5	-	1	-	4	-
60-64	57	29.4	46	49.3	11	-	15	-	11	-	4	-
65-69	56	27.6	45	47.4	11	-	14	-	12	-	2	-
70-74	45	25.3	33	42.0	12	-	12	-	10	-	2	-
75-79	36	25.8	28	48.5	8	-	11	-	10	-	1	-
80-84	18	-	16	-	2	-	8	-	8	-	0	-
85+	12	-	11	-	1	-	3	-	3	-	0	-
<b>Age-Adjusted</b>	<b>309</b>	<b>5.2</b>	<b>245</b>	<b>9.1</b>	<b>64</b>	<b>2.0</b>	<b>77</b>	<b>1.3</b>	<b>63</b>	<b>2.2</b>	<b>14</b>	<b>0.5</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# LEUKEMIAS

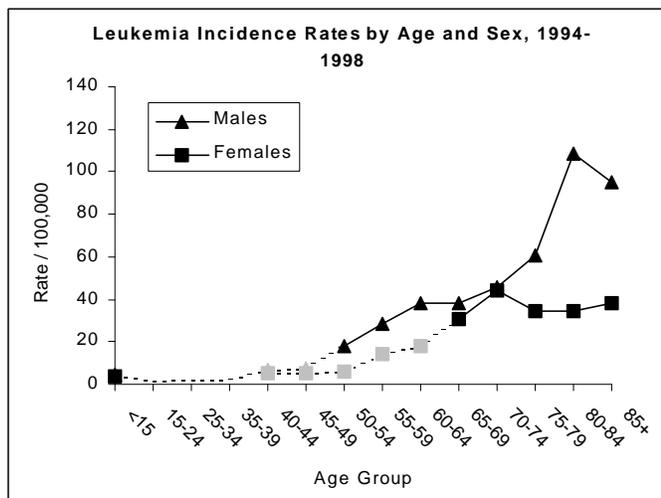
## SUMMARY

Leukemia is a cancer in which the body produces large numbers of abnormal blood cells. In most types of leukemia, it is the white blood cells that are affected. Leukemia cells usually appear different from normal blood cells and do not function properly, impairing the body's ability to fight disease. Although often thought of as primarily a childhood disease, leukemia affects many more adults than children each year.

**Age Most Often Affected:** All

**Gender Most Often Affected:** Both

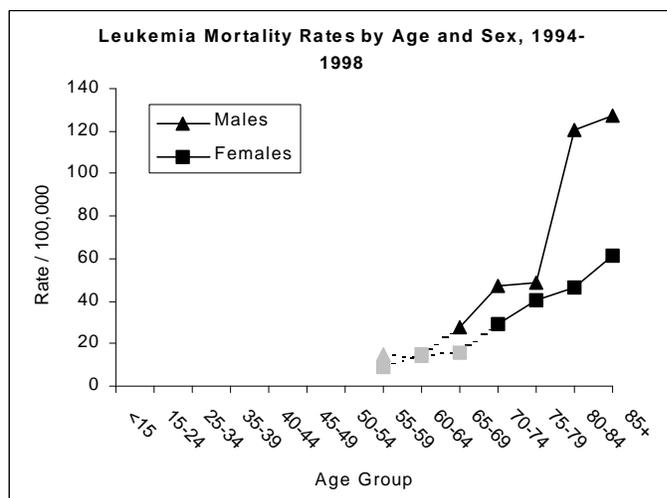
**Survival Information:** The 1-year relative survival rate for patients with leukemia is 64%. Survival drops to 43% five years after diagnosis, primarily due to the poor survival rates of particular types of leukemia, such as acute myelocytic. There has been a dramatic improvement in survival for patients with acute lymphocytic leukemia—from a 5-year relative survival rate of 38% in the mid-1970s to 59% in the early 1990s. Survival rates for children have increased from 53% to 81% over the same period.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	135	9.8	10.2	84	6.3	6.4
Male	79	12.4	12.9	53	8.1	8.3
Female	56	7.7	8.1	31	5.0	4.9

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Exposure to large amounts of high-energy radiation
- Some genetic conditions, such as Down's syndrome
- Long term exposure to benzene

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

#### 49. Leukemias: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	4	2	2	5	2	3
Carroll	6	2	4	5	2	3
Cheshire	12	7	5	2	1	1
Coos	10	5	5	3	1	2
Grafton	16	9	7	7	3	4
Hillsborough	34	21	13	32	21	11
Merrimack	12	7	5	7	6	1
Rockingham	22	15	7	11	6	5
Strafford	15	10	5	8	8	0
Sullivan	4	1	3	4	3	1
<b>State Total</b>	<b>135</b>	<b>79</b>	<b>56</b>	<b>84</b>	<b>53</b>	<b>31</b>

*Summary staging data for  
Leukemia is not available*

#### 50. Leukemias: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	50	4.1	29	4.6	21	3.5	10	-	7	-	3	-
15-24	12	-	5	-	7	-	5	-	2	-	3	-
25-34	21	2.3	12	-	9	-	15	-	10	-	5	-
35-39	13	-	4	-	9	-	7	-	3	-	4	-
40-44	28	5.6	16	-	12	-	10	-	5	-	5	-
45-49	26	6.3	15	-	11	-	14	-	8	-	6	-
50-54	37	11.9	28	17.9	9	-	9	-	6	-	3	-
55-59	48	21.0	32	28.1	16	-	27	11.8	17	-	10	-
60-64	54	27.9	36	38.5	18	-	28	14.5	13	-	15	-
65-69	69	34.0	36	37.9	33	30.6	43	21.2	26	27.4	17	-
70-74	80	45.0	36	45.8	44	44.3	67	37.7	38	48.4	29	29.2
75-79	63	45.1	35	60.6	28	34.2	62	44.4	28	48.5	34	41.5
80-84	59	61.8	38	108.9	21	34.7	70	73.3	42	120.3	28	46.2
85+	44	53.6	21	95.3	23	38.3	65	79.2	28	127.1	37	61.6
<b>Age-Adjusted</b>	<b>604</b>	<b>9.7</b>	<b>343</b>	<b>12.4</b>	<b>261</b>	<b>7.7</b>	<b>432</b>	<b>6.3</b>	<b>233</b>	<b>8.1</b>	<b>199</b>	<b>5.0</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# LIVER

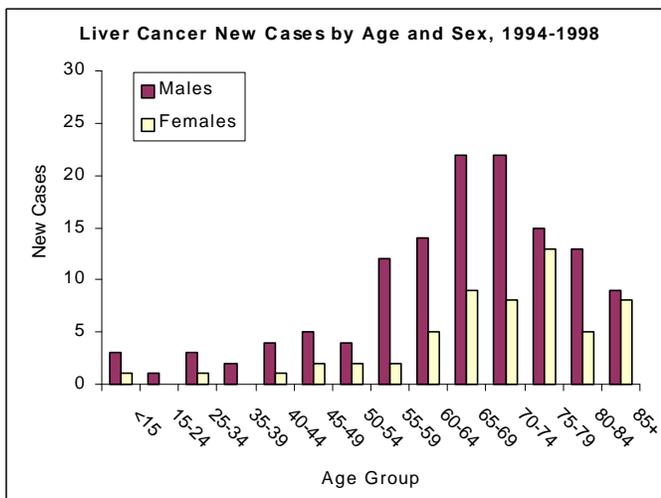
## SUMMARY

Liver cancer is the fifth most common cancer worldwide. Rates in developing countries are much higher than in the United States.

**Age Most Often Affected:** 50+

**Gender Most Often Affected:** Men

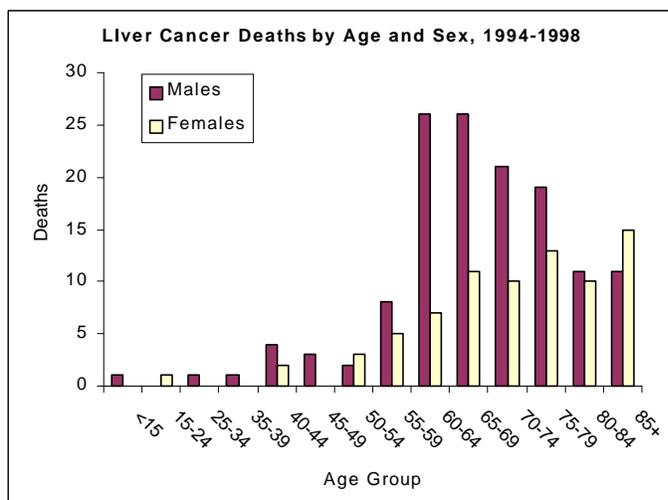
**Survival Information:** Because symptoms of liver cancer often do not appear until the disease is advanced, only a small number of liver cancers are found in the early stages and can be removed through surgery. Less than 30% of the patients having explorative surgery are able to have their cancer completely removed by surgery. The overall 5-year relative survival rate from liver cancer is about 10%.



Note: Actual number of new cases are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	51	<b>2.9</b>	3.6	50	3.3	3.3
Male	39	<b>4.6</b>	5.4	36	4.9	4.7
Female	12	<b>1.5</b>	2.1	14	2.0	2.0

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Infection with the hepatitis B or hepatitis C virus
- Chronic consumption of alcohol
- Cirrhosis of the liver
- Exposure to aflatoxin, vinyl chloride, thorium dioxide, anabolic steroids, and arsenic

## SCREENING AND EARLY DETECTION

No effective early detection methods exist for liver cancer.

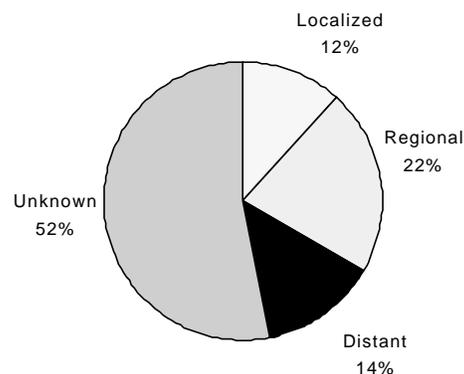


5% of NH adult males are chronic drinkers of alcohol (60+ drinks per month)

### 51. Liver: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	8	6	2	4	4	0
Carroll	3	2	1	3	2	1
Cheshire	2	1	1	1	0	1
Coos	0	0	0	0	0	0
Grafton	4	3	1	7	4	3
Hillsborough	13	10	3	12	10	2
Merrimack	6	5	1	4	2	2
Rockingham	12	9	3	15	10	5
Strafford	2	2	0	2	2	0
Sullivan	1	1	0	2	2	0
<b>State Total</b>	<b>51</b>	<b>39</b>	<b>12</b>	<b>50</b>	<b>36</b>	<b>14</b>

### 52. Liver: Stage at Diagnosis ■ 1998



### 53. Liver: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	4	-	3	-	1	-	1	-	1	-	0	-
15-24	1	-	1	-	0	-	1	-	0	-	1	-
25-34	4	-	3	-	1	-	1	-	1	-	0	-
35-39	2	-	2	-	0	-	1	-	1	-	0	-
40-44	5	-	4	-	1	-	6	-	4	-	2	-
45-49	7	-	5	-	2	-	3	-	3	-	0	-
50-54	6	-	4	-	2	-	6	-	3	-	3	-
55-59	14	-	12	-	2	-	13	-	8	-	5	-
60-64	19	-	14	-	5	-	33	17.0	26	27.8	7	-
65-69	31	15.3	22	23.2	9	-	38	18.7	27	28.4	11	-
70-74	30	16.9	22	28.0	8	-	32	18.0	21	26.7	11	-
75-79	28	20.0	15	-	13	-	32	22.9	19	-	13	-
80-84	18	-	13	-	5	-	21	22.0	11	-	10	-
85+	17	-	9	-	8	-	26	31.7	11	-	15	-
<b>Age-Adjusted</b>	<b>186</b>	<b>2.9</b>	<b>129</b>	<b>4.6</b>	<b>57</b>	<b>1.5</b>	<b>214</b>	<b>3.3</b>	<b>136</b>	<b>4.9</b>	<b>78</b>	<b>2.0</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# LUNG AND BRONCHUS

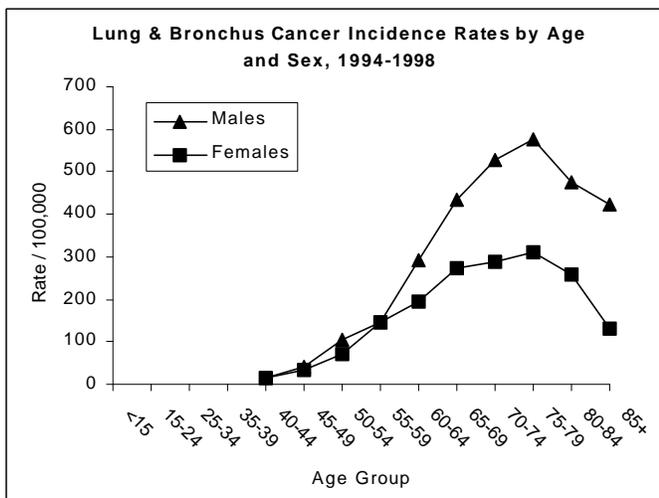
## SUMMARY

Lung cancer is the second most commonly diagnosed type of cancer in both men and women in New Hampshire and is the leading cause of cancer death. Cancers that begin in the lungs are divided into two major types, non-small cell lung cancer, and small cell lung cancer. Non-small cell lung cancer is more common than small cell lung cancer, and it generally grows and spreads more slowly. Small cell lung cancer grows more quickly and is more likely to spread to other organs in the body. Because symptoms often do not appear until the lung cancer of either type is advanced, early detection is difficult.

**Age Most Often Affected:** 60+

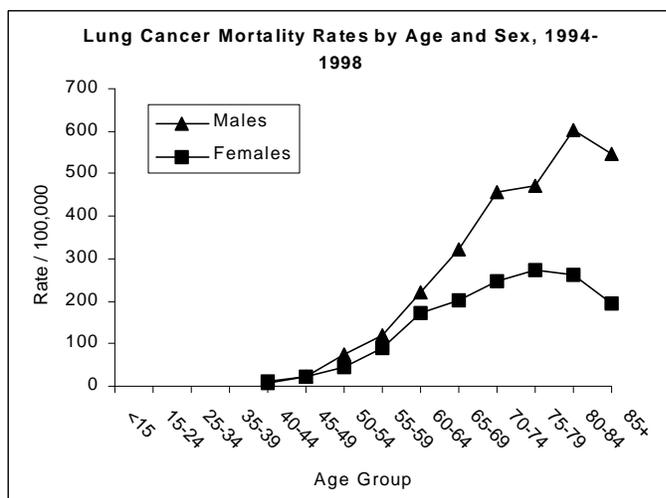
**Gender Most Often Affected:** Males, although the gap with females has been narrowing over the past 20 years (following increased female smoking rates)

**Survival Information:** The 1-year relative survival rates for lung cancer have increased from 34% in 1975 to 41% in 1995, largely due to improvements in surgical techniques. The 5-year relative survival rate for all stages combined remains very low, at 14%. The survival rate is 49% for cases detected when the disease is still localized, but only 15% of cases are discovered that early.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	830	<b>61.5</b>	55.8	688	<b>50.6</b>	48.6
Male	465	<b>77.1</b>	70.4	389	65.4	66.6
Female	365	<b>49.6</b>	44.8	299	<b>39.8</b>	35.0

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



## KNOWN RISK FACTORS

- Smoking
- Occupational exposure to asbestos, chloromethyl ethers, chromium, nickel, radiation, second-hand smoke
- Exposure to radon

## SCREENING AND EARLY DETECTION

No effective early detection methods exist.

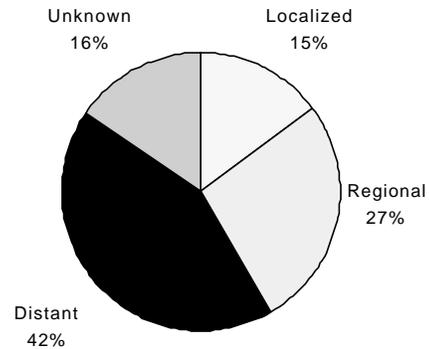


22% of NH adults are current smokers (with similar rates between males and females).

54. Lung and Bronchus: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	63	34	29	42	20	22
Carroll	32	20	12	27	11	16
Cheshire	68	41	27	54	35	19
Coos	32	21	11	24	17	7
Grafton	47	29	18	36	19	17
Hillsborough	223	118	105	185	102	83
Merrimack	74	39	35	78	50	28
Rockingham	169	100	69	154	86	68
Strafford	82	46	36	55	31	24
Sullivan	40	17	23	33	18	15
<b>State Total</b>	<b>830</b>	<b>465</b>	<b>365</b>	<b>688</b>	<b>389</b>	<b>299</b>

55. Lung and Bronchus: Stage at Diagnosis ■ 1998



56. Lung and Bronchus: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	3	-	2	-	1	-	1	-	0	-	1	-
35-39	28	4.9	10	-	18	-	19	-	10	-	9	-
40-44	79	15.9	39	15.6	40	16.2	48	9.7	21	8.4	27	10.9
45-49	150	36.4	84	40.2	66	32.4	98	23.8	50	24.0	48	23.6
50-54	274	87.8	163	104.3	111	71.2	191	61.2	118	75.5	73	46.8
55-59	332	145.0	165	144.9	167	145.1	241	105.3	136	119.4	105	91.2
60-64	468	241.7	271	290.2	197	196.5	381	196.7	208	222.7	173	172.5
65-69	707	348.5	412	434.0	295	273.3	534	263.2	314	330.8	220	203.8
70-74	700	393.4	414	527.2	286	287.7	610	342.8	365	464.8	245	246.5
75-79	587	420.3	332	574.6	255	311.4	504	360.8	278	481.2	226	276.0
80-84	323	338.3	166	475.6	157	259.2	372	389.7	213	610.3	159	262.5
85+	172	209.6	93	422.2	79	131.6	237	288.8	120	544.8	117	194.9
<b>Age-Adjusted</b>	<b>3,823</b>	<b>61.4</b>	<b>2,151</b>	<b>77.1</b>	<b>1,672</b>	<b>49.5</b>	<b>3,236</b>	<b>50.6</b>	<b>1,833</b>	<b>65.4</b>	<b>1,403</b>	<b>39.8</b>

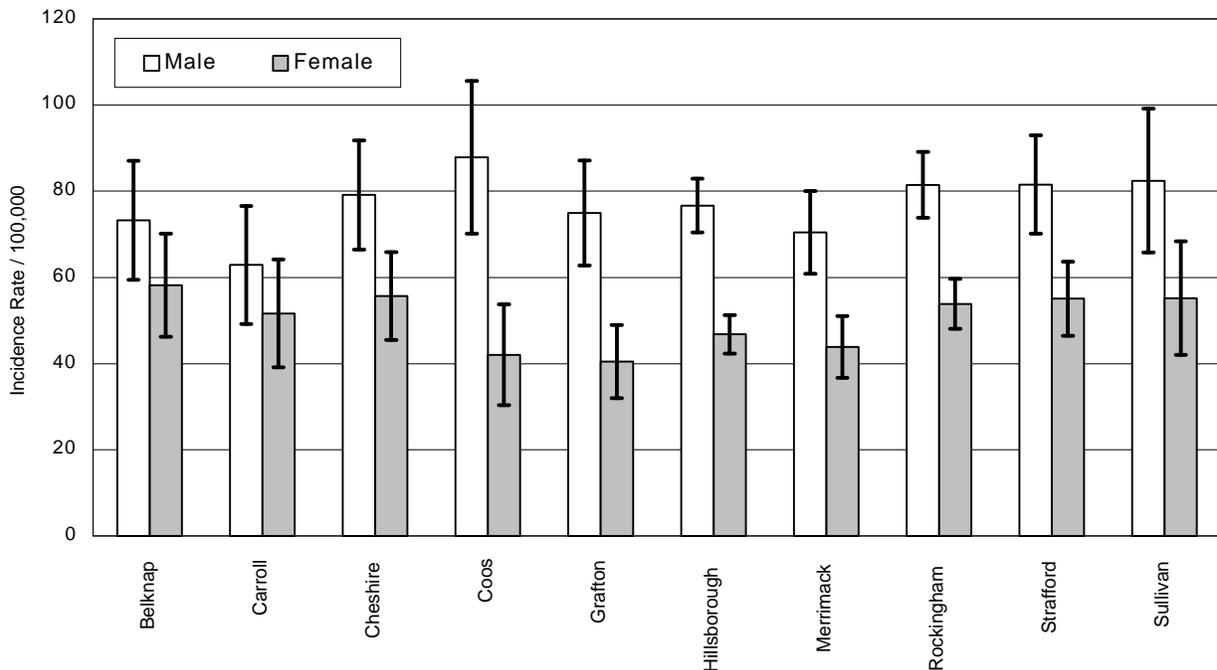
Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed with if than 20 cases/deaths were reported (noted as -).

57. Lung and Bronchus: Age-Adjusted Incidence and Mortality Rates by Sex and County ■ 1994-1998

County	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	217	64.4	114	73.3	103	58.2	181	51.1	99	61.5	82	44.4
Carroll	157	56.8	85	62.9	72	51.6	150	51.9	77	56.1	73	48.9
Cheshire	281	65.5	153	79.2	128	55.7	223	51.0	128	66.4	95	39.5
Coos	153	62.7	98	87.9	55	42.0	129	51.2	80	70.6	49	35.3
Grafton	247	56.0	150	74.9	97	40.5	235	50.4	138	66.6	97	37.8
Hillsborough	1,051	59.3	593	76.7	458	46.8	869	48.2	497	64.9	372	36.5
Merrimack	373	55.2	213	70.4	160	43.9	340	47.3	205	66.6	135	33.4
Rockingham	802	66.0	449	81.5	353	53.9	632	51.0	346	62.4	286	43.0
Strafford	370	66.0	199	81.6	171	55.1	324	57.8	177	73.6	147	46.6
Sullivan	172	67.9	97	82.5	75	55.2	153	57.4	86	73.0	67	44.6
<b>State Total</b>	<b>3,823</b>	<b>61.4</b>	<b>2,151</b>	<b>77.1</b>	<b>1,672</b>	<b>49.5</b>	<b>3,236</b>	<b>50.6</b>	<b>1,833</b>	<b>65.4</b>	<b>1,403</b>	<b>39.8</b>

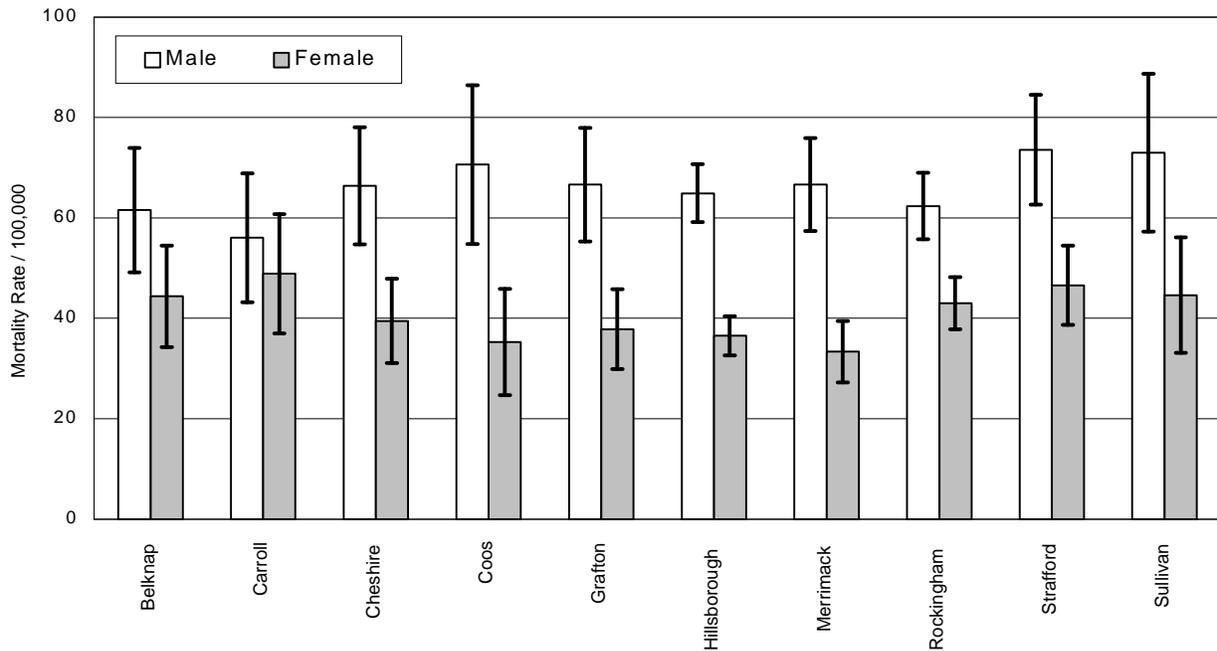
Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
None of the county rates are significantly different from the state rate at the 95% confidence interval

58. Lung and Bronchus: Age-Adjusted Incidence Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.  
 Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties and the rates of each sex within each county. If the bars overlap at any point, the rates are not statistically different. The above chart shows that while the rates vary among the counties, there are no statistically meaningful differences.

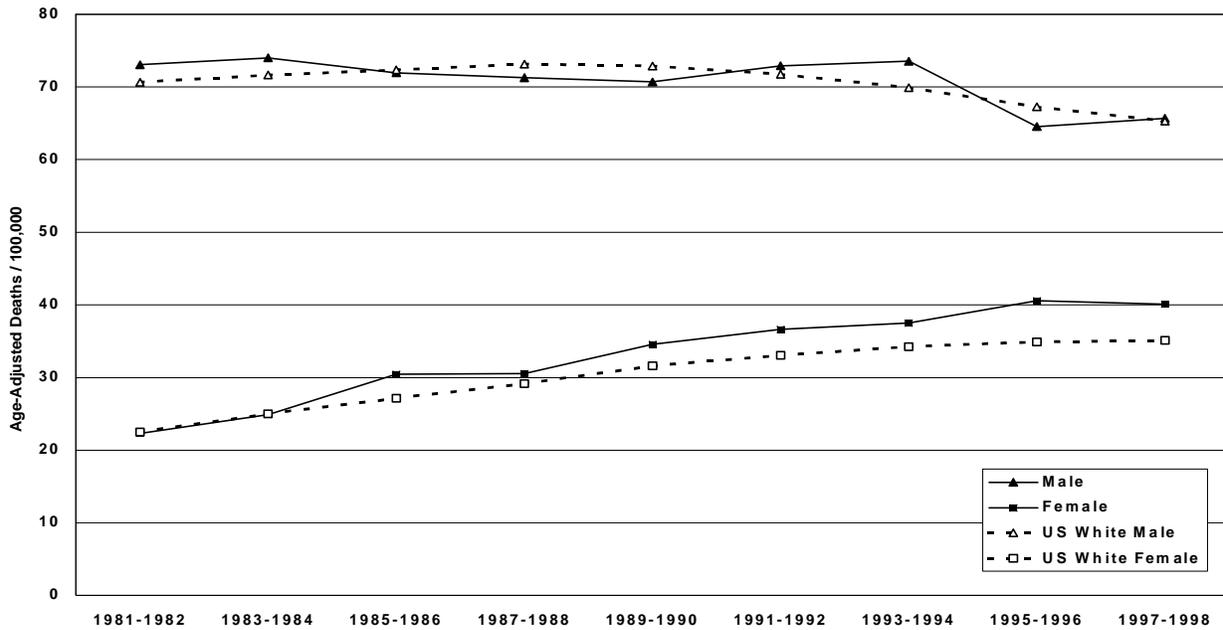
59. Lung and Bronchus: Age-Adjusted Mortality Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.

█ Represents 95% confidence interval (see appendix for explanation and methodology).

60. Lung and Bronchus: Age-Adjusted Mortality Rate Trends by Sex ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population.

The mortality rates are significantly lower for men and higher for women at the 95% confidence interval between the start and end of the period.

# MELANOMAS OF THE SKIN

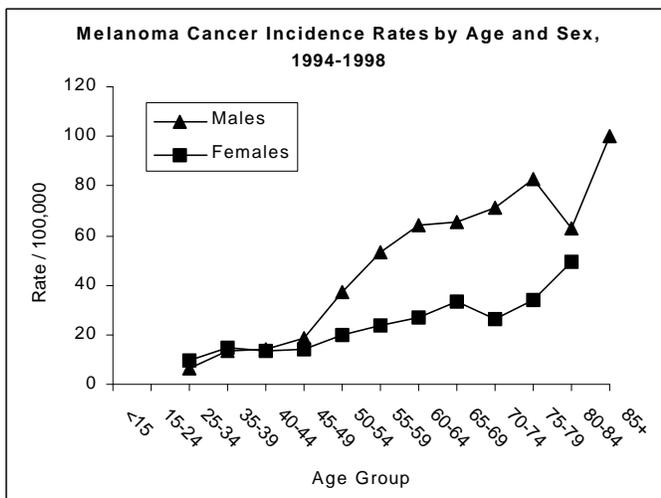
## SUMMARY

Melanoma occurs when pigment cells (melanocytes) of the skin become malignant. Melanoma can occur on any skin surface. In men, melanoma is often found on the trunk (the area from the shoulders to the hips) or the head and neck. In women, melanoma often develops on the lower legs. In the United States, the number of new cases of melanoma has more than doubled in the past 20 years.

**Age Most Often Affected:** All ages, most commonly 50+

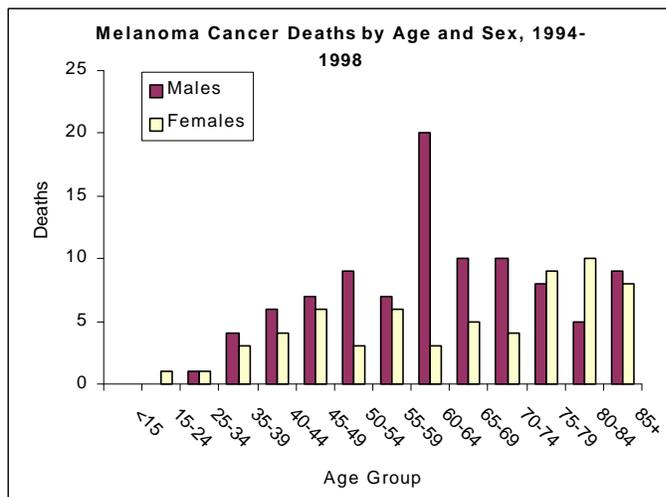
**Gender Most Often Affected:** More men than women

**Survival Information:** The 5-year relative survival rate for patients with malignant melanoma is 88%. For localized malignant melanoma, the 5-year relative survival rate is 95%; survival rates for regional and distant disease are 58% and 13%, respectively. About 82% of melanomas are diagnosed at a localized stage.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	216	<b>14.3</b>	16.5	38	2.5	2.6
Male	137	<b>18.5</b>	20.2	26	3.6	3.6
Female	79	<b>10.8</b>	13.7	12	1.7	1.7

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Persistent exposure of the skin to ultraviolet light (sunlight, tanning lights, etc.)
- Family history of melanoma
- Dysplastic nevus syndrome

## SCREENING AND EARLY DETECTION

- Regular self and physician examinations of the skin.

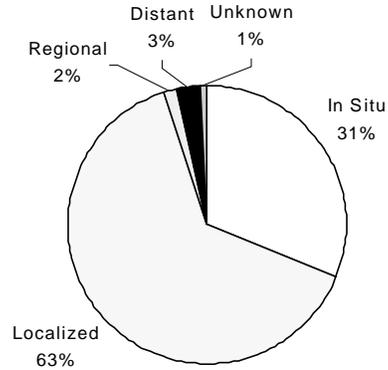


While 98% of NH adults had heard of melanoma and knew that exposure to the sun causes melanoma; only 24% knew that sunscreen prevents melanoma.

61. Melanomas of the Skin: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	15	12	3	4	3	1
Carroll	5	3	2	1	0	1
Cheshire	19	14	5	1	1	0
Coos	9	4	5	1	1	0
Grafton	26	20	6	2	2	0
Hillsborough	49	31	18	7	4	3
Merrimack	31	19	12	6	4	2
Rockingham	43	25	18	12	8	4
Strafford	12	6	6	1	0	1
Sullivan	7	3	4	3	3	0
<b>State Total</b>	<b>216</b>	<b>137</b>	<b>79</b>	<b>38</b>	<b>26</b>	<b>12</b>

62. Melanomas of the Skin: Stage at Diagnosis ■ 1998



63. Melanomas of the Skin: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	1	-	0	-	1	-	0	-	0	-	0	-
15-24	21	2.9	9	-	12	-	1	-	0	-	1	-
25-34	76	8.1	30	6.5	46	9.7	3	-	1	-	2	-
35-39	79	13.9	38	13.3	41	14.5	7	-	4	-	3	-
40-44	68	13.7	35	14.0	33	13.4	10	-	6	-	4	-
45-49	68	16.5	39	18.7	29	14.2	15	-	9	-	6	-
50-54	89	28.5	58	37.1	31	19.9	12	-	9	-	3	-
55-59	88	38.4	61	53.6	27	23.5	14	-	8	-	6	-
60-64	87	44.9	60	64.2	27	26.9	23	11.9	20	21.4	3	-
65-69	98	48.3	62	65.3	36	33.4	15	-	10	-	5	-
70-74	82	46.1	56	71.3	26	26.2	16	-	12	-	4	-
75-79	76	54.4	48	83.1	28	34.2	17	-	8	-	9	-
80-84	52	54.5	22	63.0	30	49.5	15	-	5	-	10	-
85+	33	40.2	22	99.9	11	-	17	-	9	-	8	-
<b>Age-Adjusted</b>	<b>918</b>	<b>14.3</b>	<b>540</b>	<b>18.5</b>	<b>378</b>	<b>10.8</b>	<b>165</b>	<b>2.5</b>	<b>101</b>	<b>3.6</b>	<b>64</b>	<b>1.7</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

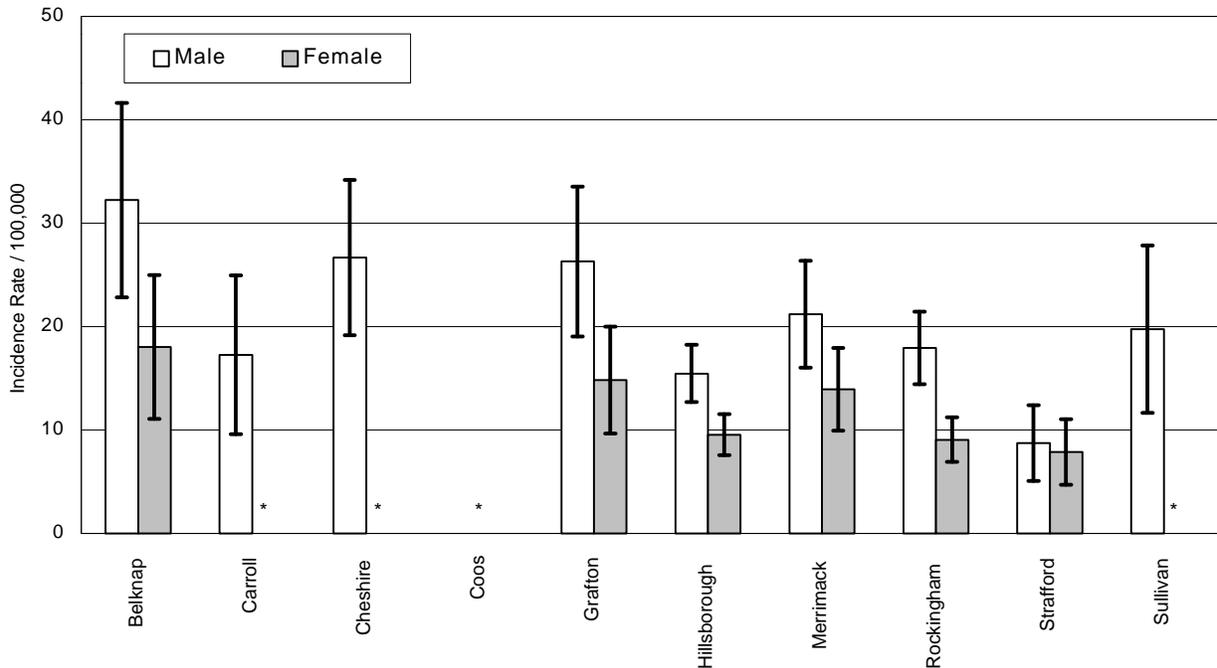
64. Melanomas of the Skin: Age-Adjusted Incidence Rates by Sex and County ■ 1994-1998

County	Incidence					
	Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate
Belknap	79	24.8	49	<b>32.3</b>	30	18.0
Carroll	32	12.4	21	17.3	11	-
Cheshire	68	16.7	50	26.7	18	-
Coos	30	13.9	13	-	17	-
Grafton	87	19.9	53	26.3	34	14.8
Hillsborough	226	12.2	129	15.5	97	9.6
Merrimack	122	17.1	68	21.2	54	13.9
Rockingham	186	13.2	110	17.9	76	9.1
Strafford	49	8.4	23	<b>8.7</b>	26	7.9
Sullivan	39	16.7	24	19.7	15	-
<b>State Total</b>	<b>918</b>	<b>14.3</b>	<b>540</b>	<b>18.5</b>	<b>378</b>	<b>10.8</b>

*Analysis of mortality by county was not performed because of the number of deaths was too small*

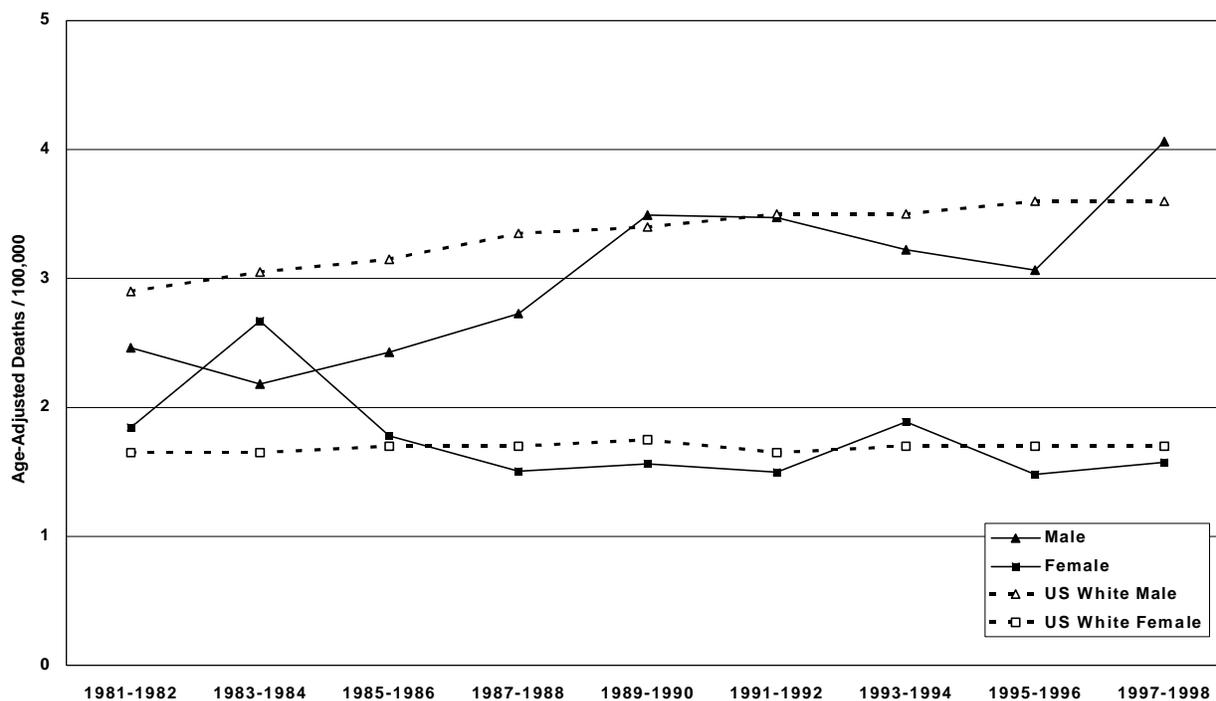
Note: Rates are per 100,000 population and adjusted to the 1970 US standard population.  
 Rates are not displayed if fewer than 20 cases were reported (noted as -).  
 Rates in **bold italic** type are significantly different from the state rate at the 95% confidence interval.

65. Melanomas of the Skin: Age-Adjusted Incidence Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.  
 \*Indicates where rates are not displayed because there were fewer than 20 cases reported.  
 ──── Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties and the rates of each sex within each county. If the bars overlap at any point, the rates are not statistically different. The above chart shows that there are statistically meaningful differences between Belknap (higher than some) and Strafford (lower than some) and some of the other counties.

66. Melanomas of the Skin: Age-Adjusted Mortality Rate Trends by Sex ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population. The mortality rates are significantly lower for women and higher for men at the 95% confidence interval between the start and end of the period.

# MULTIPLE MYELOMA

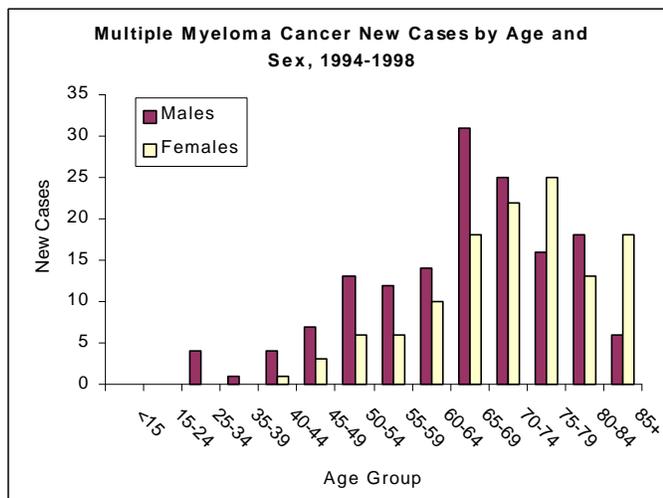
## SUMMARY

Multiple myeloma is a malignancy of plasma cells, usually originating in bone marrow and mainly affecting the skeleton. The disease is characterized by abnormal accumulations of plasma cells in bone marrow. This causes swelling and lesions of the bones. Multiple myeloma is associated with anemia, hemorrhages, weakness, and infections. Multiple myeloma is a rare disease that accounts for about 1% of all cancers. Age is the most significant multiple myeloma risk factor. Only 2% of cases are diagnosed in people younger than 40. The average age at diagnosis is about 70.

**Age Most Often Affected:** 50+

**Gender Most Often Affected:** Male

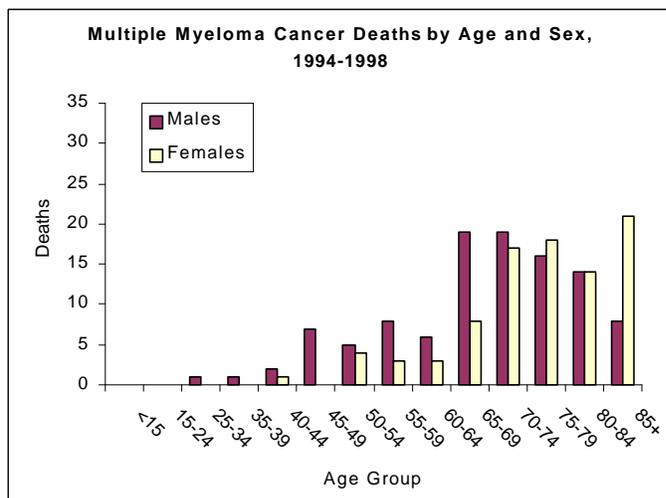
**Survival Information:** The 1-year relative survival rate for multiple myeloma is 72%, the 5-year rate is 28%, and the 10-year survival rate is 12%.



Note: Actual number of new cases are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	59	4.2	4.1	45	2.8	2.8
Male	34	5.3	5.2	23	3.7	3.5
Female	25	3.2	3.2	22	2.1	2.3

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Age
- Family member with Multiple myeloma
- People exposed to large amounts of radiation (such as survivors of the atomic bomb explosions in Japan)

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

67. Multiple Myeloma: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	5	3	2	4	3	1
Carroll	0	0	0	2	2	0
Cheshire	5	5	0	1	0	1
Coos	3	1	2	2	0	2
Grafton	4	2	2	4	1	3
Hillsborough	12	5	7	10	5	5
Merrimack	11	7	4	8	2	6
Rockingham	11	5	6	10	6	4
Strafford	7	5	2	4	4	0
Sullivan	1	1	0	0	0	0
<b>State Total</b>	<b>59</b>	<b>34</b>	<b>25</b>	<b>45</b>	<b>23</b>	<b>22</b>

*Summary staging data for Multiple Myeloma is not available*

68. Multiple Myeloma: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	4	-	4	-	0	-	1	-	1	-	0	-
35-39	1	-	1	-	0	-	1	-	1	-	0	-
40-44	5	-	4	-	1	-	3	-	2	-	1	-
45-49	10	-	7	-	3	-	7	-	7	-	0	-
50-54	19	-	13	-	6	-	9	-	5	-	4	-
55-59	18	-	12	-	6	-	11	-	8	-	3	-
60-64	24	12.4	14	-	10	-	9	-	6	-	3	-
65-69	49	24.2	31	32.7	18	-	28	13.8	19	-	9	-
70-74	47	26.4	25	31.8	22	22.1	37	20.8	20	25.5	17	-
75-79	41	29.4	16	-	25	30.5	34	24.3	16	-	18	-
80-84	31	32.5	18	-	13	-	28	29.3	14	-	14	-
85+	24	29.2	6	-	18	-	29	35.3	8	-	21	35.0
<b>Age-Adjusted</b>	<b>273</b>	<b>4.2</b>	<b>151</b>	<b>5.3</b>	<b>122</b>	<b>3.2</b>	<b>197</b>	<b>2.8</b>	<b>107</b>	<b>3.7</b>	<b>90</b>	<b>2.1</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# NON-HODGKIN'S LYMPHOMAS

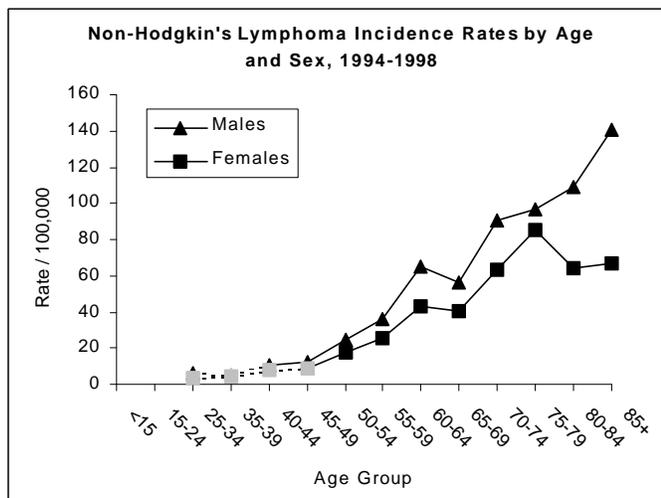
## SUMMARY

Lymphoma is a general term for cancers that develop in the lymphatic system. Hodgkin's disease is one type of lymphoma. All other lymphomas are grouped together and are called non-Hodgkin's lymphoma. The incidence of non-Hodgkin's lymphoma has increased dramatically over the last two decades. This disease has gone from being relatively rare to being the fifth most common cancer in the United States. Reasons for this increase are unknown.

**Age Most Often Affected:** All ages, incidence increases with age

**Gender Most Often Affected:** Male

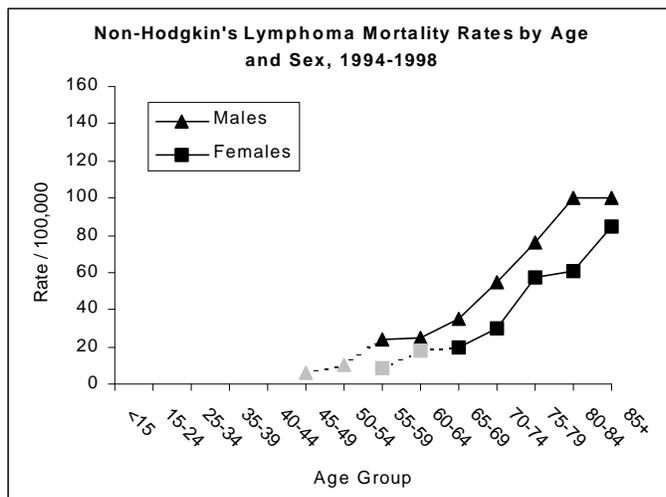
**Survival Information:** The 1-year survival rate for Non-Hodgkin's lymphoma is 70%, the 5-year rate is 51%, and the 10-year rate is 41%.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	225	<b>14.4</b>	16.3	103	7.7	7.2
Male	124	<b>17.3</b>	20.1	60	9.8	8.9
Female	101	12.1	13.0	43	6.0	5.9

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Acquired immune disorders
- Exposures to herbicides and chemicals used in agriculture and forestry
- Exposure to Human T-lymphotropic virus type I (HTLV-1) and Epstein-Barr virus

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

69. Non-Hodgkin's Lymphomas: New  
Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	14	5	9	4	2	2
Carroll	4	1	3	4	2	2
Cheshire	16	6	10	8	6	2
Coos	9	7	2	4	2	2
Grafton	19	12	7	7	6	1
Hillsborough	63	38	25	24	14	10
Merrimack	34	16	18	16	8	8
Rockingham	44	26	18	20	12	8
Strafford	14	9	5	8	5	3
Sullivan	8	4	4	8	3	5
<b>State Total</b>	<b>225</b>	<b>124</b>	<b>101</b>	<b>103</b>	<b>60</b>	<b>43</b>

*Summary staging data for  
Non-Hodgkin's Lymphomas  
is not available*

70. Non-Hodgkin's Lymphomas: Age Specific and Age-Adjusted Incidence and Mortality  
Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	7	-	3	-	4	-	4	-	2	-	2	-
15-24	15	-	8	-	7	-	5	-	3	-	2	-
25-34	42	4.5	27	5.9	15	-	8	-	3	-	5	-
35-39	28	4.9	16	-	12	-	11	-	7	-	4	-
40-44	45	9.1	26	10.4	19	-	11	-	8	-	3	-
45-49	43	10.4	26	12.5	17	-	22	5.3	13	-	9	-
50-54	67	21.5	39	25.0	28	18.0	20	6.4	16	-	4	-
55-59	70	30.6	41	36.0	29	25.2	37	16.2	27	23.7	10	-
60-64	104	53.7	61	65.3	43	42.9	41	21.2	23	24.6	18	-
65-69	97	47.8	53	55.8	44	40.8	55	27.1	34	35.8	21	19.5
70-74	134	75.3	71	90.4	63	63.4	74	41.6	44	56.0	30	30.2
75-79	126	90.2	56	96.9	70	85.5	91	65.2	44	76.2	47	57.4
80-84	77	80.7	38	108.9	39	64.4	72	75.4	35	100.3	37	61.1
85+	71	86.5	31	140.7	40	66.6	74	90.2	22	99.9	52	86.6
<b>Age-Adjusted</b>	<b>926</b>	<b>14.4</b>	<b>496</b>	<b>17.2</b>	<b>430</b>	<b>12.1</b>	<b>525</b>	<b>7.7</b>	<b>281</b>	<b>9.8</b>	<b>244</b>	<b>6.0</b>

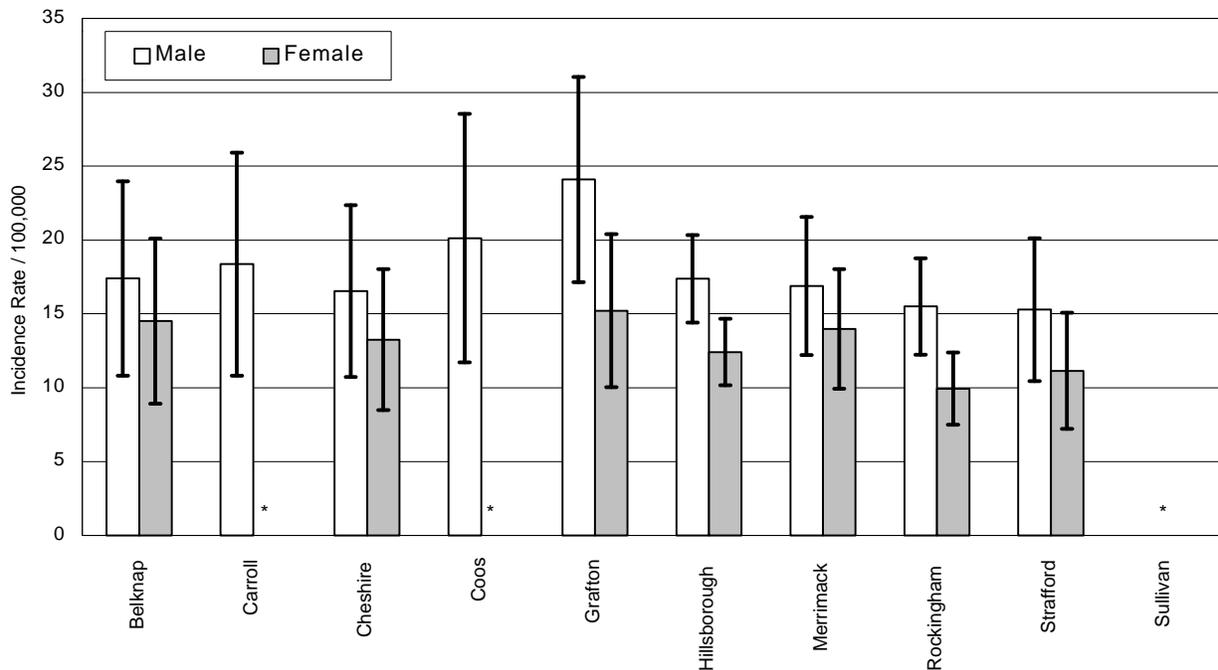
Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

71. Non-Hodgkin's Lymphomas: Age-Adjusted Incidence Rates by Sex and County ■ 1994-1998

County	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	57	15.5	28	17.4	29	14.5	27	7.4	11	-	16	-
Carroll	37	13.4	24	18.4	13	-	17	-	9	-	8	-
Cheshire	66	14.7	32	16.5	34	13.3	36	7.6	22	11.2	14	-
Coos	39	15.7	23	20.1	16	-	23	8.3	14	-	9	-
Grafton	86	19.3	48	24.1	38	15.2	34	7.0	21	10.3	13	-
Hillsborough	268	14.6	139	17.4	129	12.4	151	7.9	79	9.9	72	6.1
Merrimack	105	15.2	52	16.9	53	14.0	53	7.1	25	8.2	28	6.2
Rockingham	163	12.5	93	15.5	70	9.9	114	8.5	63	10.7	51	6.7
Strafford	73	13.0	39	15.3	34	11.1	48	8.2	29	11.8	19	-
Sullivan	32	12.7	18	-	14	-	22	7.6	8	-	14	-
<b>State Total</b>	<b>926</b>	<b>14.4</b>	<b>496</b>	<b>17.3</b>	<b>430</b>	<b>12.1</b>	<b>525</b>	<b>7.7</b>	<b>281</b>	<b>9.8</b>	<b>244</b>	<b>6.0</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population.  
 Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).  
 None of the county rates are significantly different from the state rate at the 95% confidence interval

72. Non-Hodgkin's Lymphomas: Age-Adjusted Incidence Rates by Sex and County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.  
 \*Indicates where rates are not displayed because there were fewer than 20 cases reported.  
 ┌───┐ Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties and the rates of each sex within each county. If the bars overlap at any point, the rates are not statistically different. The above chart shows that while the rates vary among the counties, there are no statistically meaningful differences.

73. Non-Hodgkin's Lymphomas: Age-Adjusted Mortality Rate Trends by Sex ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population. The mortality rates are significantly higher at the 95% confidence interval between the start and end of the period.

# ORAL CAVITY AND PHARYNX

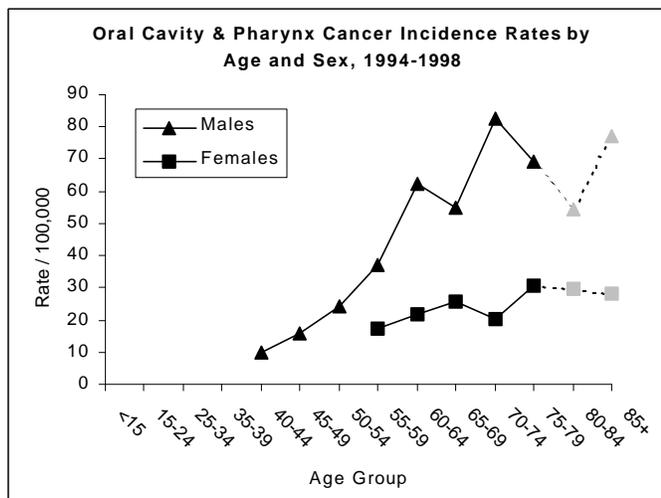
## SUMMARY

Oropharyngeal cancers include those that occur in the lip, tongue, salivary gland, floor of the mouth, and back of the throat (nasopharynx, oropharynx and hypopharynx). The majority of cases are diagnosed in the tongue, lips, and floor of the mouth. During regular check-ups, dentists and primary care physicians can check for abnormal tissue in order to detect oral cancer at early stages.

**Age Affected:** Over age 40

**Gender Most Often Affected:** Male

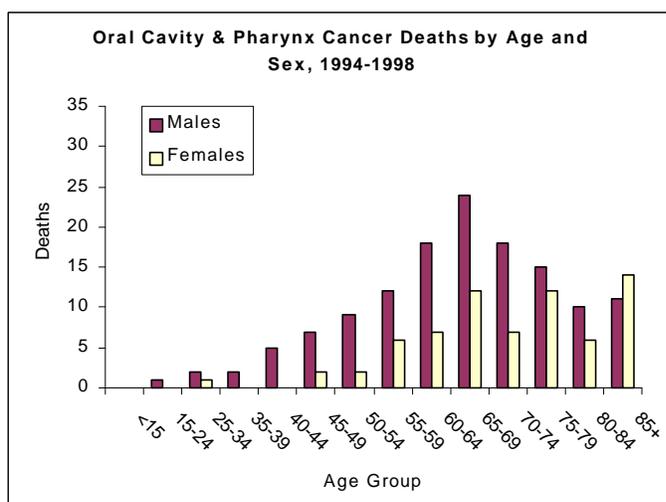
**Survival Information:** 83% of oropharyngeal cancer patients survive one year after diagnosis. For all stages of disease combined, the 5-year relative survival rate is 53% and the 10-year rate is 46%.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	112	9.6	9.8	42	<b>3.2</b>	2.4
Male	76	14.4	14.4	27	<b>4.9</b>	3.6
Female	36	5.6	5.9	15	1.8	1.4

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Use of tobacco products
- Excessive consumption of alcohol
- Diet low in fresh fruits and vegetables, particularly foods high in vitamin A

## SCREENING AND EARLY DETECTION

Visual inspection through regular dental check-ups and annual physician visits.

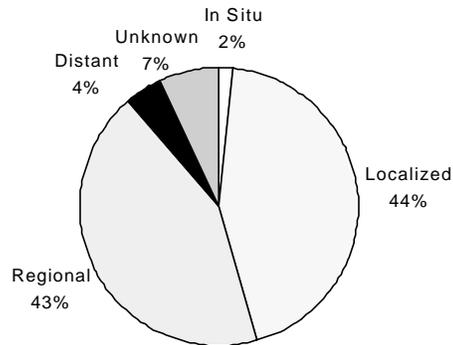


28% of NH adults had not visited a dentist in the past year.

74. Oral Cavity and Pharynx: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	5	3	2	4	1	3
Carroll	7	5	2	1	0	1
Cheshire	14	12	2	1	1	0
Coos	4	3	1	3	2	1
Grafton	4	4	0	4	3	1
Hillsborough	24	12	12	9	6	3
Merrimack	20	14	6	9	6	3
Rockingham	19	13	6	8	6	2
Strafford	11	7	4	3	2	1
Sullivan	4	3	1	0	0	0
<b>State Total</b>	<b>112</b>	<b>76</b>	<b>36</b>	<b>42</b>	<b>27</b>	<b>15</b>

75. Oral Cavity and Pharynx: Stage at Diagnosis ■ 1998



76. Oral Cavity and Pharynx: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	3	-	2	-	1	-	0	-	0	-	0	-
15-24	3	-	2	-	1	-	1	-	1	-	0	-
25-34	12	-	6	-	6	-	3	-	2	-	1	-
35-39	9	-	5	-	4	-	2	-	2	-	0	-
40-44	32	6.4	25	10.0	7	-	5	-	5	-	0	-
45-49	41	9.9	33	15.8	8	-	9	-	7	-	2	-
50-54	53	17.0	38	24.3	15	-	11	-	9	-	2	-
55-59	62	27.1	42	36.9	20	17.4	18	-	12	-	6	-
60-64	80	41.3	58	62.1	22	21.9	27	13.9	20	21.4	7	-
65-69	80	39.4	52	54.8	28	25.9	36	17.7	24	25.3	12	-
70-74	85	47.8	65	82.8	20	20.1	25	14.0	18	-	7	-
75-79	65	46.5	40	69.2	25	30.5	27	19.3	15	-	12	-
80-84	37	38.8	19	-	18	-	16	-	10	-	6	-
85+	34	41.4	17	-	17	-	25	30.5	11	-	14	-
<b>Age-Adjusted</b>	<b>596</b>	<b>9.6</b>	<b>404</b>	<b>14.3</b>	<b>192</b>	<b>5.6</b>	<b>205</b>	<b>3.2</b>	<b>136</b>	<b>4.9</b>	<b>69</b>	<b>1.8</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

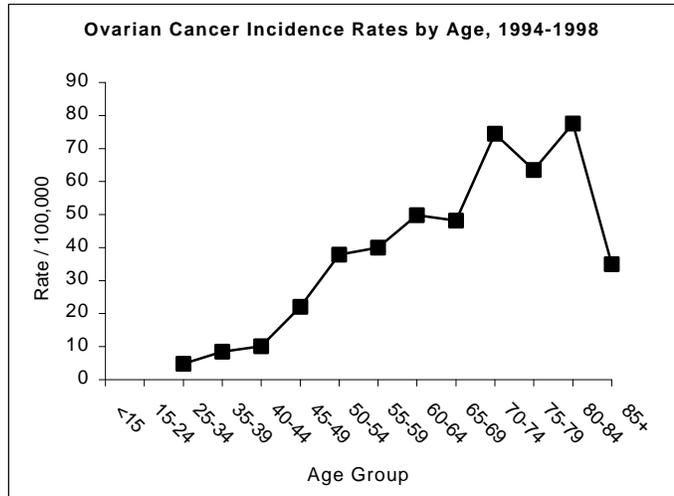
# OVARY

## SUMMARY

Overall, ovarian cancer is considered a relatively uncommon type of cancer, however it is the leading cause of death from gynecological cancers in this country. Most ovarian cancers form on the surface of the ovaries. Because no effective screening method is available, periodic, thorough pelvic exams are important.

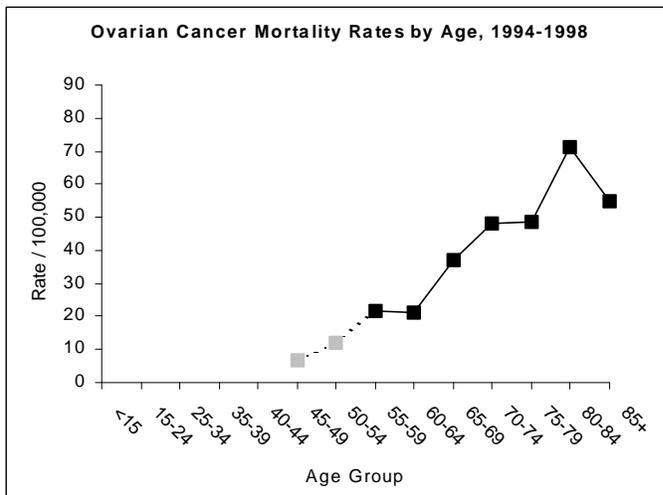
**Age Most Often Affected:** 60+ but found in all age groups

**Survival Information:** 78% of ovarian cancer patients survive one year after diagnosis; the 5-year relative survival rate for all stages is 50%. If diagnosed and treated early, the survival rate is 95%; however, only about 25% of all cases are detected at the localized stage. Five-year relative survival rates for women with regional and distant disease are 79% and 28%, respectively.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Female	94	15.8	15.6	59	8.1	7.6

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Family history of ovarian cancer
- Cancer of colon, rectum, or breast
- Childlessness
- Fertility drugs

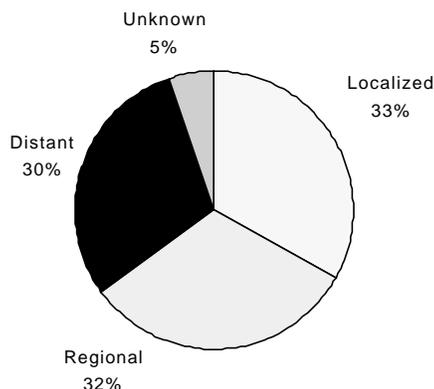
## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

77. Ovary: New Cases and Deaths by County ■ 1998

County	New Cases	Deaths
Belknap	5	4
Carroll	4	7
Cheshire	8	6
Coos	4	1
Grafton	6	6
Hillsborough	32	11
Merrimack	6	6
Rockingham	19	11
Strafford	6	4
Sullivan	4	3
<b>State Total</b>	<b>94</b>	<b>59</b>

78. Ovary: Stage at Diagnosis ■ 1998



79. Ovary: Age Specific and Age-Adjusted Incidence and Mortality Rates ■ 1994-1998

Age Group	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
<15	1	-	0	-
15-24	11	-	0	-
25-34	23	4.9	4	-
35-39	24	8.5	5	-
40-44	25	10.1	4	-
45-49	45	22.1	14	-
50-54	59	37.9	19	-
55-59	46	40.0	26	22.6
60-64	50	49.9	21	20.9
65-69	52	48.2	41	38.0
70-74	74	74.4	49	49.3
75-79	52	63.5	40	48.8
80-84	47	77.6	43	71.0
85+	21	35.0	33	55.0
<b>Age-Adjusted</b>	<b>530</b>	<b>15.7</b>	<b>299</b>	<b>8.1</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# PANCREAS

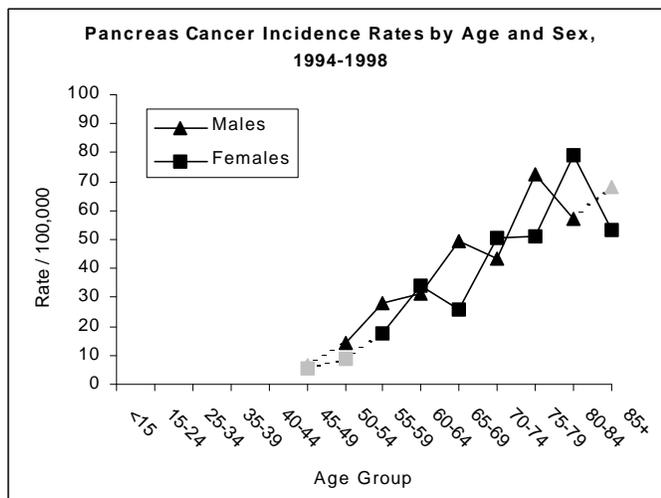
## SUMMARY

Located behind the stomach, the pancreas is responsible for the production of insulin (to control blood sugar) and digestive juices. It is composed of 2 different types of glands: the exocrine and the endocrine. About 95% of cancers of the exocrine pancreas are adenocarcinomas; these are cancers that grow in the cells lining certain organs. Tumors of the endocrine pancreas are much less common. Cigarette smokers develop this disease two to three times more often than nonsmokers.

**Age Most Often Affected:** 60+

**Gender Most Often Affected:** Both

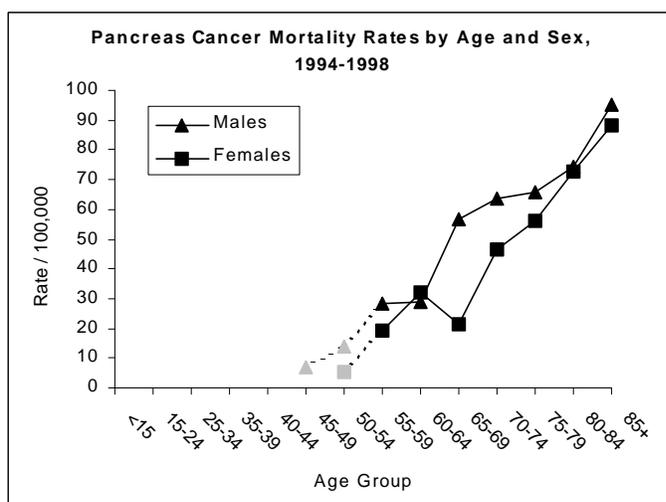
**Survival Information:** For all stages combined, the 1-year relative survival rate is 19%, the 5-year rate is 4%.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	126	8.6	8.5	125	<b>8.9</b>	8.0
Male	64	9.4	9.9	63	10.4	9.3
Female	62	7.8	7.3	62	7.7	7.0

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Tobacco use
- Diet high in fat
- Obesity
- Diabetes

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

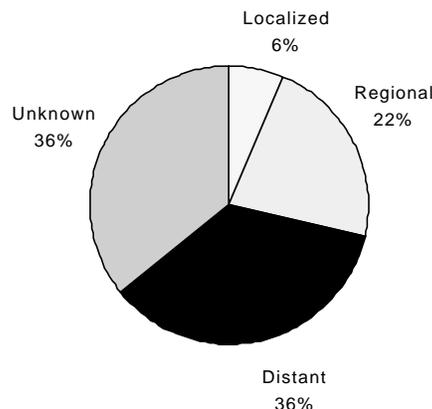


22% of NH adults are current smokers.

80. Pancreas: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	2	1	1	4	2	2
Carroll	7	3	4	7	3	4
Cheshire	11	8	3	6	3	3
Coos	8	3	5	9	3	6
Grafton	11	6	5	9	3	6
Hillsborough	41	20	21	39	17	22
Merrimack	15	7	8	16	11	5
Rockingham	18	9	9	22	11	11
Strafford	11	5	6	10	7	3
Sullivan	2	2	0	3	3	0
<b>State Total</b>	<b>126</b>	<b>64</b>	<b>62</b>	<b>125</b>	<b>63</b>	<b>62</b>

81. Pancreas: Stage at Diagnosis ■ 1998



82. Pancreas: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	1	-	1	-	0	-	0	-	0	-	0	-
35-39	5	-	1	-	4	-	3	-	1	-	2	-
40-44	12	-	7	-	5	-	13	-	7	-	6	-
45-49	25	6.1	14	-	11	-	22	5.3	15	-	7	-
50-54	36	11.5	22	14.1	14	-	28	9.0	18	-	10	-
55-59	52	22.7	32	28.1	20	17.4	55	24.0	32	28.1	23	20.0
60-64	63	32.5	29	31.1	34	33.9	60	31.0	27	28.9	33	32.9
65-69	75	37.0	47	49.5	28	25.9	78	38.4	54	56.9	24	22.2
70-74	84	47.2	34	43.3	50	50.3	97	54.5	51	64.9	46	46.3
75-79	84	60.1	42	72.7	42	51.3	84	60.1	38	65.8	46	56.2
80-84	68	71.2	20	57.3	48	79.2	71	74.4	27	77.4	44	72.6
85+	47	57.3	15	-	32	53.3	74	90.2	21	95.3	53	88.3
<b>Age-Adjusted</b>	<b>552</b>	<b>8.6</b>	<b>264</b>	<b>9.5</b>	<b>288</b>	<b>7.8</b>	<b>585</b>	<b>8.9</b>	<b>291</b>	<b>10.4</b>	<b>294</b>	<b>7.7</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

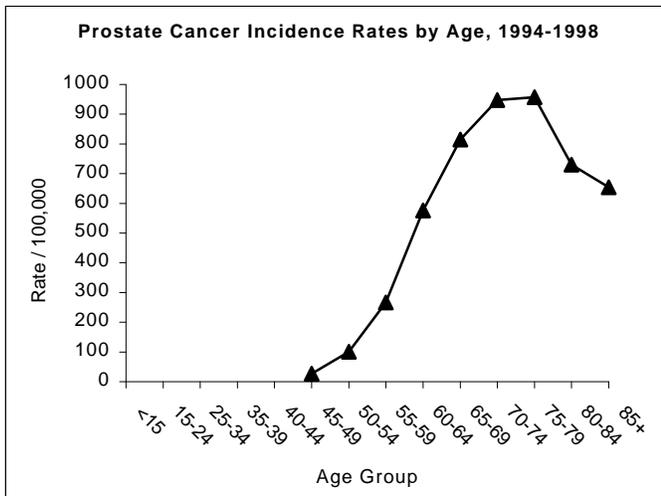
# PROSTATE

## SUMMARY

Cancer of the prostate is the most common cancer in men. Between 1989 and 1992, prostate cancer incidence rates increased dramatically, probably due to earlier diagnosis in men without any symptoms through better screening, using the PSA blood test.

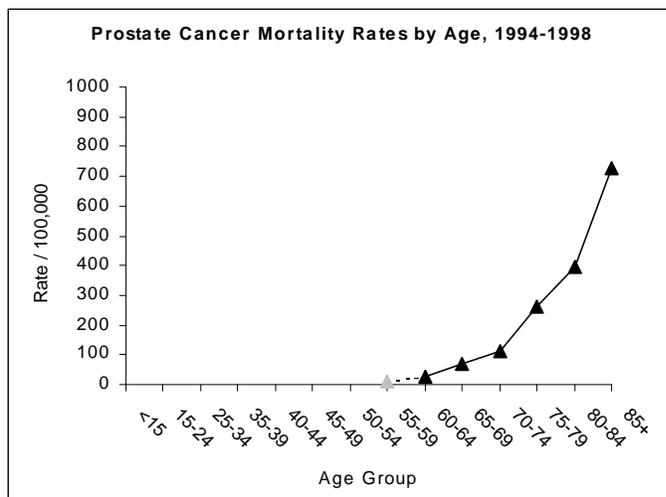
**Age Most Often Affected:** 65+

**Survival Information:** Seventy-nine percent of all prostate cancers are discovered in the local and regional stages; the 5-year relative survival rate for patients whose tumors are diagnosed at these stages is 100%. Over the past 20 years, the survival rate for all stages combined has increased from 67% to 92%. Survival after a diagnosis of prostate cancer continues to decline beyond five years. According to the most recent data, 67% of men diagnosed with prostate cancer survive 10 years and 52% survive 15 years.



	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Male	658	129.5	132.5	109	22.5	21.9

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Possibly a diet high in fat
- Family history of prostate cancer
- Race (African American men have the highest prostate cancer incidence rates in the world)

## SCREENING AND EARLY DETECTION

- Digital rectal exam of the prostate gland
- Prostate-specific antigen (PSA) blood test

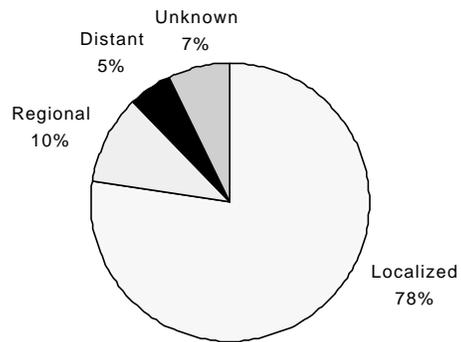


While all NH males 40 years or older have heard of the PSA test, 45% have never had the test.

83. Prostate: New Cases and Deaths by County ■ 1998

County	New Cases	Deaths
Belknap	44	7
Carroll	19	3
Cheshire	42	11
Coos	25	4
Grafton	37	7
Hillsborough	219	28
Merrimack	74	7
Rockingham	125	20
Strafford	47	13
Sullivan	26	9
<b>State Total</b>	<b>658</b>	<b>109</b>

84. Prostate: Stage at Diagnosis ■ 1998



85. Prostate: Age Specific and Age-Adjusted Incidence and Mortality Rates ■ 1994-1998

Age Group	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
<15	0	-	0	-
15-24	0	-	0	-
25-34	0	-	0	-
35-39	0	-	0	-
40-44	9	-	1	-
45-49	55	26.3	1	-
50-54	158	101.1	7	-
55-59	304	267.0	14	-
60-64	538	576.1	26	27.8
65-69	774	815.3	67	70.6
70-74	744	947.4	92	117.1
75-79	553	957.2	153	264.8
80-84	255	730.7	139	398.3
85+	144	653.8	160	726.4
<b>Age-Adjusted</b>	<b>3,534</b>	<b>129.4</b>	<b>660</b>	<b>22.5</b>

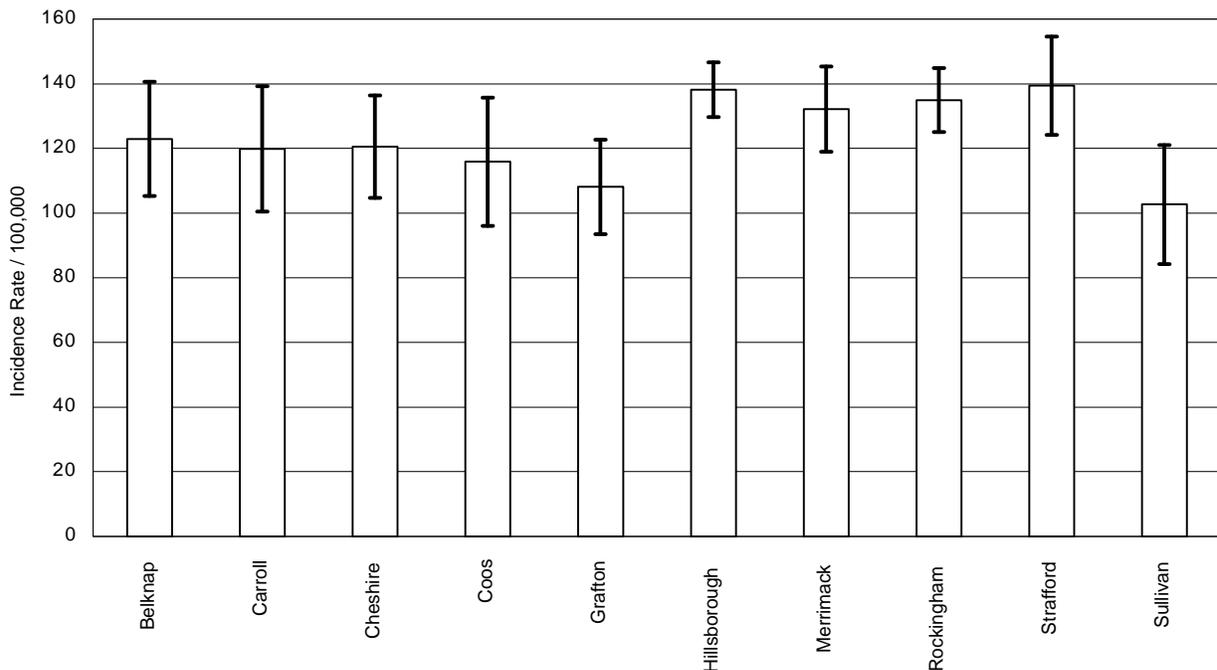
Note: Rates are per 100,000 population and age-adjustment is to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

86. Prostate: Age-Adjusted Incidence and Mortality Rates by County ■ 1994-1998

County	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
Belknap	195	122.9	41	24.1
Carroll	157	119.9	31	20.5
Cheshire	227	120.6	44	20.7
Coos	136	115.8	31	24.5
Grafton	217	<b>108.1</b>	42	18.8
Hillsborough	1,025	138.2	168	22.1
Merrimack	394	132.1	78	22.9
Rockingham	729	135.0	125	22.0
Strafford	330	139.4	62	25.4
Sullivan	124	<b>102.7</b>	38	28.1
<b>State Total</b>	<b>3,534</b>	<b>129.4</b>	<b>660</b>	<b>22.5</b>

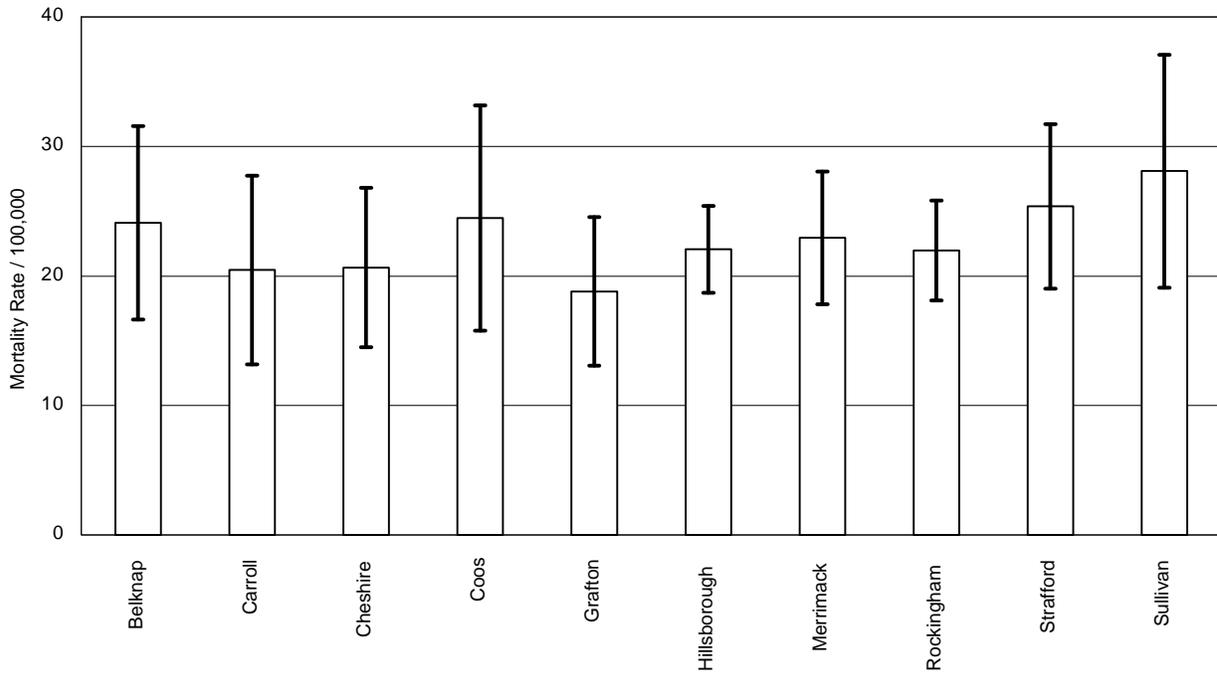
Note: Rates are per 100,000 population and adjusted to the 1970 US standard population.  
 Rates in **bold italic** type are significantly different from the state rate at the 95% confidence interval.

87. Prostate: Age-Adjusted Incidence Rates by County With 95% Confidence Intervals ■ 1994-1998



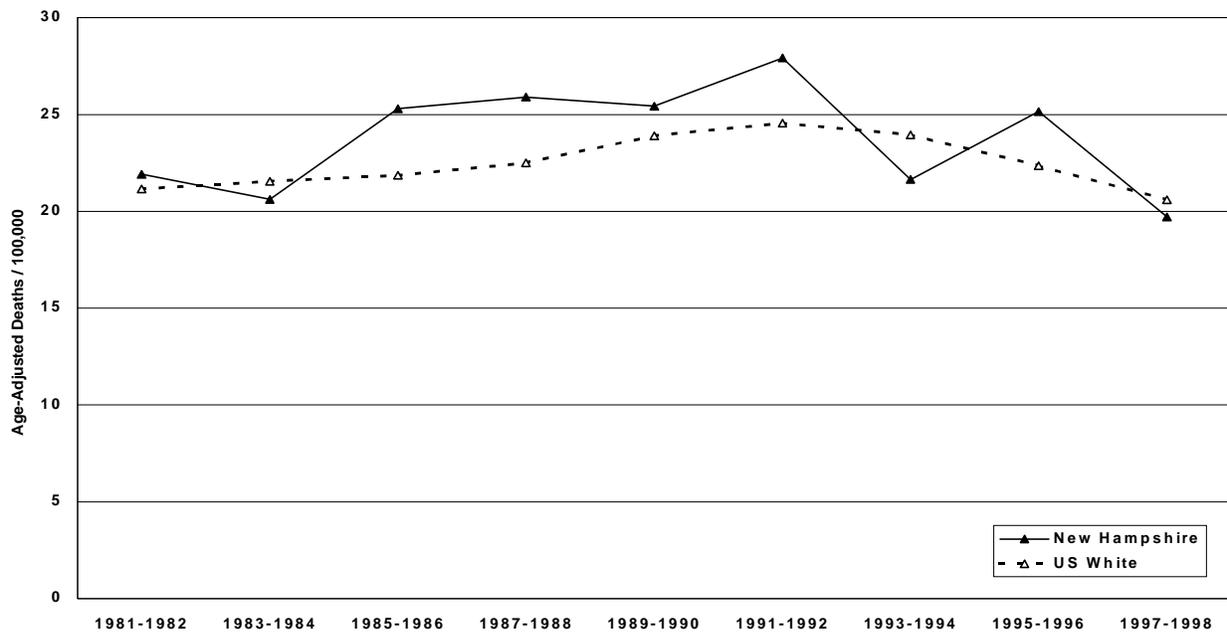
Note: Rates are age-adjusted to the 1970 US standard population.  
 ■ Represents 95% confidence interval (see appendix for explanation and methodology). The confidence interval bars can be used to compare the rates in different counties. If the bars overlap at any point, the rates are not statistically different. The above chart shows that there are statistically meaningful differences with Grafton and Sullivan lower than Hillsborough, Rockingham Counties, and Strafford Counties.

88. Prostate: Age-Adjusted Mortality Rates by County With 95% Confidence Intervals ■ 1994-1998



Note: Rates are age-adjusted to the 1970 US standard population.

89. Prostate: Age-Adjusted Mortality Rate Trend ■ 1981-1998



Note: Rates are two year averages and are age-adjusted to the 1970 US standard population. Following national trends the mortality rate rose and the started falling again within the period.

# STOMACH

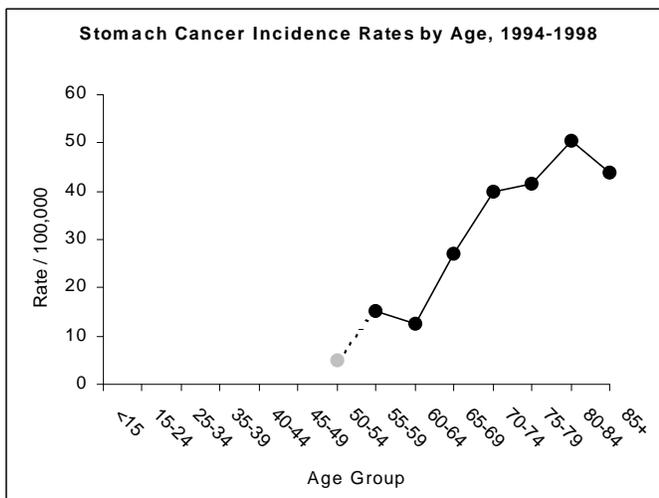
## SUMMARY

Stomach cancer incidence and death rates have fallen dramatically in the last 60 years in the US. Early stomach cancer causes few symptoms; this makes early diagnosis difficult. Only 10%-20% of stomach cancers in the U.S. are detected in the stages when survival rates are highest.

**Age Most Often Affected:** 50+

**Gender Most Often Affected:** Male

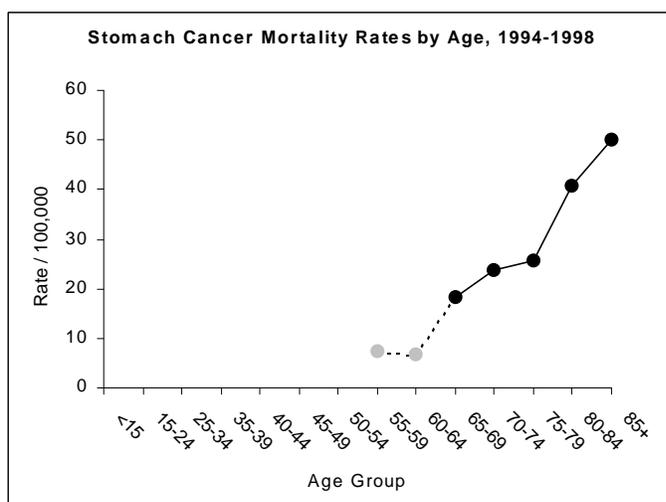
**Survival Information:** The 5-year survival rate is greater than 90% in stages 0 and I gastric cancer, about 50% in stage II disease, 15% or less in stage III cancers, and about 3% in stage IV tumors. Most patients diagnosed with stomach cancer in the United States have stage III or stage IV cancers.



Note: Rates plotted in gray are based on 10 to 19 cases; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	66	5.6	5.7	49	3.6	3.5
Male	46	8.8	8.5	34	5.7	5.1
Female	20	<b>2.9</b>	3.5	15	2.0	2.4

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Rates plotted in gray are based on 10 to 19 deaths; they are presented to provide continuity and allow some interpretation, but should be relied upon with caution.

## KNOWN RISK FACTORS

- Diet high in smoked or salted foods containing nitrates and nitrites and low in fresh fruits and vegetables, especially vitamins A and C
- Smoking
- Stomach ulcers

## SCREENING AND EARLY DETECTION

No effective screening method has been identified for the general population.

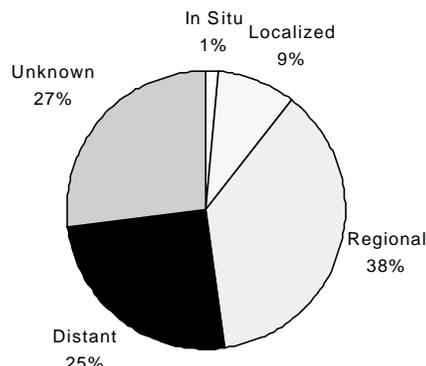


72.1% of NH adults did not eat five servings of fruits or vegetables a day.

90. Stomach: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	4	3	1	1	1	0
Carroll	2	2	0	1	0	1
Cheshire	1	1	0	3	2	1
Coos	0	0	0	1	1	0
Grafton	4	3	1	3	2	1
Hillsborough	23	17	6	18	12	6
Merrimack	11	8	3	7	6	1
Rockingham	13	8	5	12	8	4
Strafford	5	1	4	2	1	1
Sullivan	3	3	0	1	1	0
<b>State Total</b>	<b>66</b>	<b>46</b>	<b>20</b>	<b>49</b>	<b>34</b>	<b>15</b>

91. Stomach: Stage at Diagnosis ■ 1998



92. Stomach: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	0	-	0	-	0	-	0	-	0	-	0	-
15-24	0	-	0	-	0	-	0	-	0	-	0	-
25-34	2	-	1	-	1	-	0	-	0	-	0	-
35-39	7	-	5	-	2	-	4	-	2	-	2	-
40-44	7	-	6	-	1	-	3	-	2	-	1	-
45-49	10	-	8	-	2	-	8	-	6	-	2	-
50-54	16	-	15	-	1	-	8	-	7	-	1	-
55-59	35	15.3	30	26.3	5	-	17	-	16	-	1	-
60-64	24	12.4	18	-	6	-	13	-	11	-	2	-
65-69	55	27.1	44	46.3	11	-	38	18.7	28	29.5	10	-
70-74	71	39.9	46	58.6	25	25.2	42	23.6	28	35.7	14	-
75-79	58	41.5	28	48.5	30	36.6	37	26.5	19	-	18	-
80-84	48	50.3	31	88.8	17	-	40	41.9	21	60.2	19	-
85+	36	43.9	18	-	18	-	41	50.0	22	99.9	19	-
<b>Age-Adjusted</b>	<b>369</b>	<b>5.6</b>	<b>250</b>	<b>8.8</b>	<b>119</b>	<b>2.9</b>	<b>251</b>	<b>3.6</b>	<b>162</b>	<b>5.7</b>	<b>89</b>	<b>2.0</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

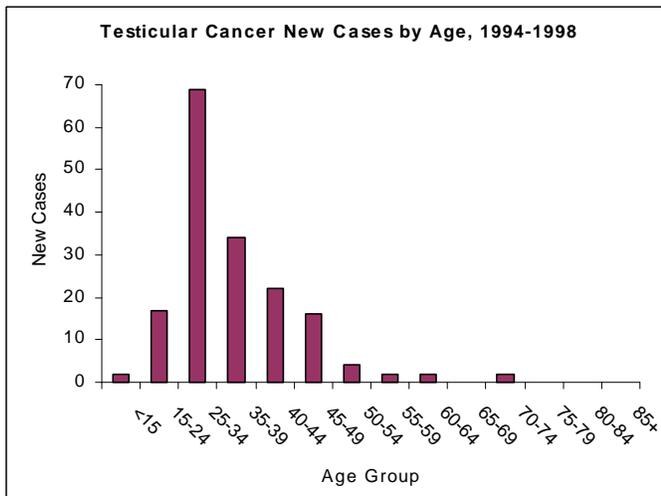
# TESTIS

## SUMMARY

Testicular cancer represents only one percent of all cancers and about five percent of genital cancers in males. However, it is the most common cancer in young males. Testicular cancer risk has more than doubled among white Americans in the past 40 years but has remained the same for African-Americans.

**Age Most Often Affected:** 15-35

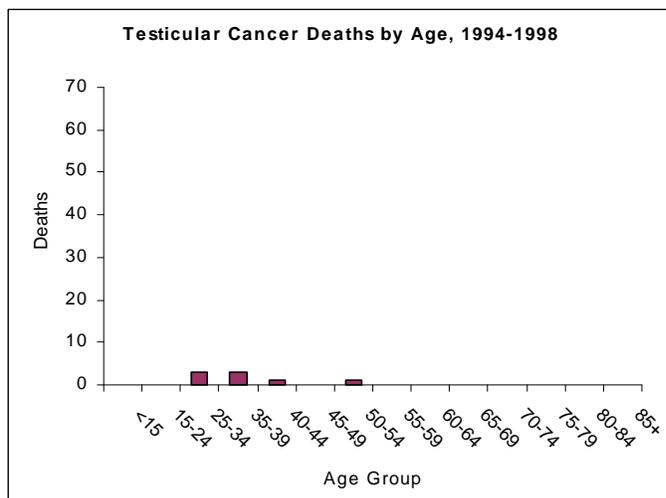
**Survival Information:** Studies show that the cure rate exceeds 90% in all stages combined. The 5-year survival rate for stage I and stage II testicular cancer is more than 95%. The 5-year survival rate for stage III disease, in which cancer has spread beyond local lymph nodes, is 75%.



Note: Actual number of new cases are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Male	29	4.7	5.5	3	-	0.2

Note: None of the New Hampshire rates are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Undescended testicle
- Congenital abnormalities of the testicles
- Maternal exposure to DES before birth

## SCREENING AND EARLY DETECTION

Self-exams and regular exams by a physician

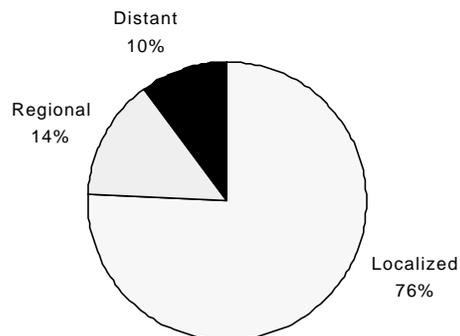


10.9% of NH adult males had no health insurance; 36.5% of NH males did not have a routine physical checkup in the past year.

93. Testis: New Cases and Deaths by County ■ 1998

County	New Cases	Deaths
Belknap	0	0
Carroll	0	0
Cheshire	1	0
Coos	1	0
Grafton	2	1
Hillsborough	15	0
Merrimack	2	0
Rockingham	6	1
Strafford	2	0
Sullivan	0	1
<b>State Total</b>	<b>29</b>	<b>3</b>

94. Testis: Stage at Diagnosis ■ 1998



95. Testis: Age Specific and Age-Adjusted Incidence and Mortality Rates ■ 1994-1998

Age Group	Incidence		Mortality	
	Male Cases	Male Rate	Male Deaths	Male Rate
<15	2	-	0	-
15-24	17	-	0	-
25-34	69	15.0	3	-
35-39	34	11.9	3	-
40-44	22	8.8	1	-
45-49	16	-	0	-
50-54	4	-	1	-
55-59	2	-	0	-
60-64	2	-	0	-
65-69	0	-	0	-
70-74	2	-	0	-
75-79	0	-	0	-
80-84	0	-	0	-
85+	0	-	0	-
<b>Age-Adjusted</b>	<b>170</b>	<b>4.8</b>	<b>8</b>	<b>-</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# THYROID

## SUMMARY

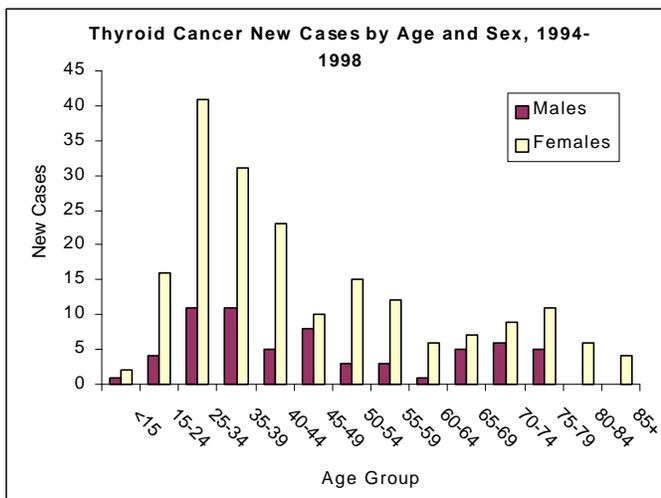
Thyroid cancer is the most common cancer of the endocrine system and accounts for about 1 percent of all cancers. About 10 percent of thyroid nodules (lumps) are cancerous. Most early thyroid cancers are found when patients ask their doctors about nodules they have noticed, but are also detected by health care providers during routine checkups.

**Age Most Often Affected:** All ages

**Gender Most Often Affected:** Women

**Survival Information:** More than 90% of patients treated for papillary or follicular thyroid carcinoma will live for 15 years or longer after their diagnosis. For medullary thyroid cancer, over 80% of patients live at least 10 years after surgery.

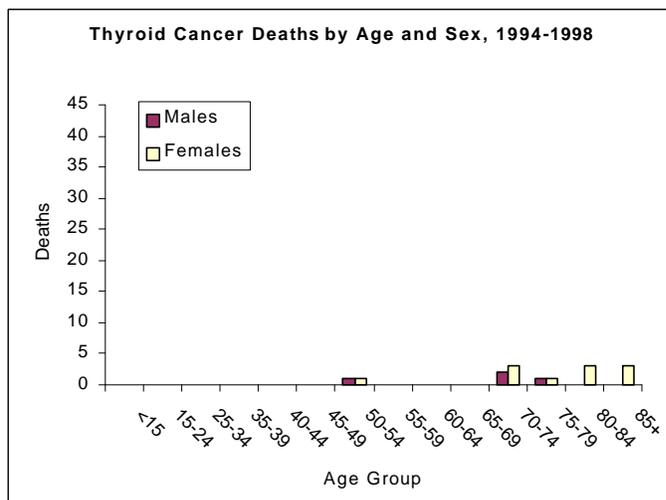
Anaplastic thyroid carcinoma has a much less favorable prognosis—between 3% and 17% of patients with this cancer survive five years after diagnosis.



Note: Actual number of new cases are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

	New Cases 1998 NH	Age-Adjusted Incidence Rate / 100,000		Deaths 1998 NH	Age-Adjusted Mortality Rate / 100,000	
		1994-1998 New Hampshire	1996 SEER U.S. White		1994-1998 New Hampshire	1996 U.S. White
Total	57	<b>3.8</b>	5.7	3	-	0.4
Male	21	<b>1.9</b>	3.1	0	-	0.3
Female	36	<b>5.6</b>	8.3	3	-	0.4

Note: New Hampshire rates in **bold italic** type are significantly different from national rates at the 95% confidence interval (see appendix for a description of the statistical methods used).



Note: Actual number of deaths are plotted in place of rates; there were not enough reliable rates available to produce a meaningful chart.

## KNOWN RISK FACTORS

- Exposure to ionizing radiation, especially during childhood
- History of goiter
- Diet either very low or very high in iodine
- Hereditary factors

## SCREENING AND EARLY DETECTION

Self-examination and regular annual physician visits

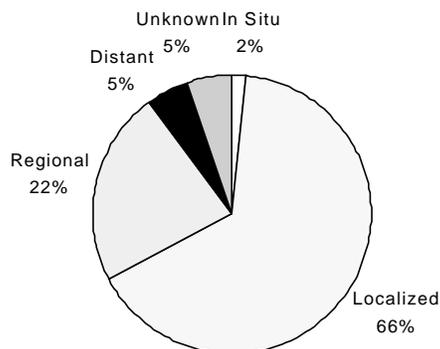


19.6% of NH women did not have a routine medical checkup during the past year.

96. Thyroid: New Cases and Deaths by County ■ 1998

County	New Cases			Deaths		
	Total	Male	Female	Total	Male	Female
Belknap	1	0	1	0	0	0
Carroll	1	1	0	1	0	1
Cheshire	4	0	4	0	0	0
Coos	4	0	4	1	0	1
Grafton	5	2	3	0	0	0
Hillsborough	16	7	9	0	0	0
Merrimack	4	4	0	0	0	0
Rockingham	15	4	11	0	0	0
Strafford	5	1	4	1	0	1
Sullivan	2	2	0	0	0	0
<b>State Total</b>	<b>57</b>	<b>21</b>	<b>36</b>	<b>3</b>	<b>0</b>	<b>3</b>

97. Thyroid: Stage at Diagnosis ■ 1998



98. Thyroid: Age Specific and Age-Adjusted Incidence and Mortality Rates by Sex ■ 1994-1998

Age Group	Incidence						Mortality					
	Total		Male		Female		Total		Male		Female	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
<15	3	-	1	-	2	-	0	-	0	-	0	-
15-24	20	2.8	4	-	16	-	0	-	0	-	0	-
25-34	52	5.6	11	-	41	8.7	0	-	0	-	0	-
35-39	42	7.4	11	-	31	10.9	0	-	0	-	0	-
40-44	28	5.6	5	-	23	9.3	0	-	0	-	0	-
45-49	18	-	8	-	10	-	0	-	0	-	0	-
50-54	18	-	3	-	15	-	2	-	1	-	1	-
55-59	15	-	3	-	12	-	0	-	0	-	0	-
60-64	7	-	1	-	6	-	0	-	0	-	0	-
65-69	12	-	5	-	7	-	0	-	0	-	0	-
70-74	15	-	6	-	9	-	5	-	2	-	3	-
75-79	16	-	5	-	11	-	2	-	1	-	1	-
80-84	6	-	0	-	6	-	4	-	1	-	3	-
85+	4	-	0	-	4	-	3	-	0	-	3	-
<b>Age-Adjusted</b>	<b>256</b>	<b>3.8</b>	<b>63</b>	<b>1.9</b>	<b>193</b>	<b>5.5</b>	<b>16</b>	<b>0.2</b>	<b>5</b>	<b>0.2</b>	<b>11</b>	<b>0.2</b>

Note: Rates are per 100,000 population and age-adjusted to the 1970 US standard population. Rates are not displayed if fewer than 20 cases/deaths were reported (noted as -).

# APPENDIX

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## DATA QUALITY

Data quality is directly related to the completeness and accuracy of the information reported. Registry data tabulated in this report are based on information received and edited by the NHSCR as of December 1999 and reflect at least 91% of the true cancer incidence rate for the state. Delays in reports from out of state hospitals and incomplete medical records account for the balance of the cases.

The New Hampshire State Registry follows standard procedures for ensuring the accuracy of data. A comprehensive set of standard national edits are applied to all case reports received by the NHSCR prior to including those cases in the central database. New case reports are then merged with old case reports to ensure that only primary incident tumors are included. Our State tumor registrars contact registrars at reporting institutions to resolve any outstanding edits. In addition to these quality assurance activities for case processing, the NHSCR conducts quarter case reabstraction reviews to ensure professional standards for case abstraction are met consistently across all reporting institutions. To ensure complete case reporting, the NHSCR performs independent case finding audits by reviewing pathology and cytology reports at hospitals, free standing labs, and selected out of state laboratories performing microscopic reviews for physician offices no less than quarterly. In addition, the NHSCR links all reported cancer cases with the vital statistics death certificates and follows up on all deaths with cancer as a diagnosis that were not previously reported to the cancer registry.

## DATA CONFIDENTIALITY

All individuals working with the Registry database are governed by the Registry's confidentiality policy implemented under the New Hampshire Rules and Regulations governing the Registry. Release of confidential Registry data for research or other purposes is governed by RSA 141B. Data or data analysis may be requested through the Bureau of Health Statistics and Data Management.

## DATA SOURCES - U.S. INCIDENCE AND MORTALITY

SEER incidence rates presented in this report are from the National Cancer Institute's SEER Program Publication: *SEER Cancer Statistics Review, 1973-1998*.

Statistical information on cancer deaths US residents were obtained from the National Center for Health Statistics and analyzed by the SEER program.

## DEFINITION OF PRIMARY SITE CATEGORIES

<b>Cancer Site /Type</b>	<b>C o d e s</b>	
	<b>ICD-O-2*</b>	<b>ICD-9**</b>
<b>Brain &amp; Central Nervous System</b>	C70.0 - C72.9 See <b>List I</b> (following) for histology codes.	191.0 - 192.9 (no <i>in situ</i> code)
<b>Breast</b>	C50.0 - C50.9 except 9590 - 9989	174.0 - 174.9, 175.0, 175.9 except 233.0
<b>Bronchus &amp; Lung</b>	C34.0 - C34.9 except 9050 - 9053, 9590 - 9989	162.2 - 162.9 except 231.2
<b>Cervix Uteri</b>	C53.0 - C53.9 except 9590 - 9989	180.0 - 180.9 except 233.1
<b>Colon/Rectum</b>	C18.0 - C18.9, C19.9, C20.9, C26.0 except 9590 - 9989	153.0 - 153.9, 154.0, 154.1, 159.0 except 230.3, 230.4
<b>Corpus Uteri &amp; Uterus, NOS</b>	C54.0 - C54.9, C55.9 except 9590 - 9989	179, 182.0 - 182.8 except 233.2
<b>Esophagus</b>	C15.0 - C15.9 except 9590 - 9989	150.0 - 150.9 except 230.1
<b>Hodgkin's Disease</b>	C00.0 - C80.9 (includes O9650 - O9667)	201.0 - 201.9 (no <i>in situ</i> code)
<b>Kidney &amp; Renal Pelvis</b>	C64.9, C65.9 except 9590 - 9989	189.0, 189.1 (no <i>in situ</i> code)
<b>Larynx</b>	C32.0 - C32.9 except 9590 - 9989	161.0 - 161.9 except 231.0
<b>Leukemia</b>	C00.0 - C80.9 (includes O9800 - O9941)	202.4, 203.1, 204.0 - 208.9 (no <i>in situ</i> code)

\*International Classification of Diseases for Oncology, 2nd Ed. (1990) for incidence data

\*\*International Classification of Diseases, Ninth Revision, Clinical Modification (1980) for mortality data

**C o d e s**

<b>Cancer Site /Type</b>	<b>ICD-O-2*</b>	<b>ICD-9**</b>
<b>Liver and Intra-hepatic Bile Ducts</b>	C22.0, C22.1 except 9590 - 9989	155.0, 155.1 except 230.8
<b>Melanoma of Skin</b>	C44.0 - C44.9 (includes O8720 - O8790)	172.0 - 172.9 (no <i>in situ</i> code)
<b>Multiple Myeloma</b>	C00.0 - C80.9 (includes O9731, O9732)	203.0 (no <i>in situ</i> code)
<b>Non-Hodgkin's Lymphoma</b>	C00.0 - C80.9 See <b>List II</b> (following) for histology codes.	200.0 - 200.8, 202.0 - 202.2, 202.8, 202.9 (no <i>in situ</i> code)
<b>Oral Cavity &amp; Pharynx</b>	C00.0 - C14.8 except 9590 - 9989	140.0 - 149.9 except 230.0
<b>Ovary</b>	C56.9 except 9590 - 9989	183.0 (no <i>in situ</i> code)
<b>Pancreas</b>	C25.0 - C25.9 except 9590 - 9989	157.0 - 157.9 (no <i>in situ</i> code)
<b>Prostate</b>	C61.9 except 9590 - 9989	185 except 233.4
<b>Stomach</b>	C16.0 - C16.9 except 9590 - 9989	151.0 - 151.9 except 230.2
<b>Testis</b>	C62.0 - C62.9 except 9590 - 9989	186.0 - 186.9 (no <i>in situ</i> code)
<b>Thyroid</b>	C73.9 except 9590 - 9989	193 (no <i>in situ</i> code)
<b>Urinary Bladder</b>	C67.0 - C67.9 except 9590 - 9989	188.0 - 188.9 except 233.7

**List I -- Histology Codes for Brain and Central Nervous System Neoplasms**

ICD-O      O9370, O9380, O9381, O9382, O9390, O9391, O9392, O9400, O9401, O9410, O9411,  
O9420, O9421, O9422, O9423, O9424, O9430, O9440, O9441, O9442, O9443, O9450,  
O9451, O9460, O9470, O9471, O9472, O9473, O9480, O9481, O9490, O9500, O9501,  
O9502, O9503, O9530, O9539, O9540, O9560, O9561

**List II -- Histology Codes for Non-Hodgkin's Lymphomas**

ICD-O      O9590 - O9595, O9670 - O9717

\* *International Classification of Diseases for Oncology, 2nd Ed. (1990)* for incidence data

\*\* *International Classification of Diseases, Ninth Revision, Clinical Modification (1980)* for mortality data

## POPULATION ESTIMATES

State and county population estimates for New Hampshire used in this report are based on data from the U.S. Bureau of the Census.

The 1970 U.S. standard million population used in calculating age-adjusted rates is shown below:

Age	Population
All Ages	1,000,000
<5	84,416
5-9	98,204
10-14	102,304
15-19	93,845
20-24	80,561
25-29	66,320
30-34	56,249
35-39	54,656
40-44	58,958
45-49	59,622
50-54	54,643
55-59	49,077
60-64	42,403
65-69	34,406
70-74	26,789
75-79	18,871
80-84	11,241
85+	7,435

## DEFINITION OF CANCER TERMS

**Case:** an incident of a reportable primary site of cancer. (Note: a cancer patient may develop multiple primary cancers; therefore, the number of cases in this report refers to the number of reported primary sites, not the number of cancer patients.)

**Site:** the primary organ or tissue of origin for the malignancy. Microscopic examination, endoscopy, radiology, or clinical examination determines the place of origin.

**Stage of disease:** the extent to which the disease has spread from the site of origin at the time of diagnosis. The New Hampshire State Cancer Registry uses the Summary Staging Guide of the Cancer Surveillance, Epidemiology, and End Results Reporting (SEER) Program of NCI. The American College of Surgeons sanctions this guide. It is divided into four general categories that provide a measure of the stage of disease at the time the cancer is first diagnosed. The groupings are general enough so that nearly every case can, with careful consideration, be fitted into one of the groups. These stage categories are defined as follows:

- In situ: a noninvasive neoplasm, a tumor that has not penetrated the basement membrane of the epithelial tissue involved.
- Localized: an invasive neoplasm confined entirely to the organ of origin.
- Regional: a neoplasm that has extended beyond the limits of the organ of origin directly into surrounding organs or tissues and/or into regional lymph nodes by way of the lymphatic system.
- Distant: a neoplasm that has spread to other parts of the body remote from the primary tumor either by direct extension or by discontinuous metastasis.

## GRAPHS

Graphs have varying scales adjusted for the data displayed. Therefore, caution should be exercised when comparing graphs.

## GEOGRAPHIC ALLOCATION OF RESIDENCE

Cancer incidence and mortality records are assigned to a geographic location according to the residence of individuals, regardless of where events may have occurred.

## RATES

All rates presented in this report are average annual rates.

### *Definitions*

**Crude Rates:** the total number of events per 100,000 total population.

**Age-specific Rates:** the number of events per 100,000 persons in each age group. These rates were calculated using the population estimates presented earlier in this appendix.

**Age-adjusted Rates:** the number of events that would be expected per 100,000 persons in a selected population if that population had the same age distribution as a standard population. For this report, the standard population used is the U.S. 1970 population. Age-adjusted rates allow for comparisons of different population groups by controlling for the effects of differences in age between populations.

Age-adjusted rates were calculated using the direct method. Using this method, age-specific rates are weighted by multiplying each one by the proportion of the standard population in the respective age group. The age-adjusted rate per 100,000 is the sum of these weighted age-specific rates. (Note: the same standard population must be used in the computation of each age-adjusted rate to allow comparability. Age-adjusted rates should never be compared with any other type of rate or be used as absolute measurements of vital events.)

### *Reliability of Rates*

Several important notes should be kept in mind when examining rates.

- Rates based on small numbers of events can show considerable variation, this limits the usefulness of these rates in comparisons and estimations of future occurrences.
- Unadjusted rates are not reliable for drawing definitive conclusions when making comparisons since they do not take into account factors such as age and sex that may influence the rate. Age- and sex-adjusted rates offer a more refined measurement when comparing events over geographic areas or time periods.
- Where a difference in rates appears to be significant, care should be exercised in attributing the difference to any particular factor or set of factors. Many variables may influence rates; valid interpretation of the reason(s) for a rate difference requires substantial data and exacting analysis.

## STANDARD ERRORS

The standard errors (S.E.) of the rates were calculated using the following formula:

$$S.E. = \sqrt{\frac{w_j^2 n_j}{p_j^2}}$$

- where:  $w_j$  = the fraction of the standard population in age  $j$  category
- $n_j$  = the number of cases in that age category
- $p_j$  = the person-years denominator

## CONFIDENCE INTERVALS

The standard error can be used to evaluate the statistical significance between two rates by calculating the confidence interval. If the interval produced for one rate does not overlap with the interval for the other, the probability that the rates are statistically different is 95% or higher. (This test can be inaccurate for rates based on fewer than 10 events.) The formula used is:

$$R \pm z (SE)$$

where

- R=age-adjusted rate of one population
- $z = 1.96$  for 95% confidence limits
- SE= standard error as calculated above

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